


THE SCIENCE AND ART
OF
PRESCRIBING

COLBECK & CHAPLIN



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BY

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SECOND EDITION—REVISED AND ENLARGED.

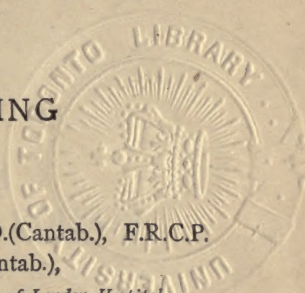
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PREFACE TO THE SECOND EDITION.

THE demand for a second edition of this work has so quickly followed its original publication that we have thought it inadvisable to make any substantial alteration in the general character and arrangement of the book.

We have taken advantage of the opportunity to correct the errors which crept into the letter-press of the first edition, and some of the sections in the second part of the work have been slightly amplified.

We have also added an appendix for the purpose of shewing the chief ingredients of the more important patent medicines.

E. H. C.

A. C.

PREFACE.

UNDER the influence of the present system of medical education and of the growing habit of using ready-made formulæ, the student and practitioner of medicine are afforded few opportunities of acquiring a knowledge of the principles and methods which underlie the administration of drugs. The therapeutical action of medicinal substances and the indications for their use are commonly well understood, but the practical application of drugs in the treatment of disease is far too much of a stumbling block both to the practitioner and student of medicine.

This little work has been compiled with the object of providing a short and reliable guide to the art of prescribing, and while no effort has been spared to avoid unnecessary detail, an attempt has been made to meet and elucidate the ordinary difficulties which beset the student in the writing of medicinal formulæ.

The subject has been treated largely from a clinical and practical point of view, and special attention has been directed to the means for correcting and disguising the taste of nauseous drugs. The classification of diseases in Part II. is purely arbitrary, and was adopted solely for

the purpose of illustrating various methods of prescribing. While we are jointly answerable for the general plan and arrangement of the work, we are individually responsible for each particular chapter to which we have affixed our initials.

We are indebted for much valuable information to Squire's "Companion to the British Pharmacopœia," to Martindale and Westcott's "Extra Pharmacopœia," to Freyberger's "Diseases of Children," and to Handsel Griffiths' "Lessons on Prescriptions and the Art of Prescribing."

We have also consulted the Pharmacopœias of the London Hospitals, and we have made use of several of the formulæ contained in the Pharmacopœia of the City of London Hospital for Diseases of the Chest.

LONDON,

June, 1902.

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CHANGES IN

THE BRITISH PHARMACOPŒIA (1914)

AFFECTING INFORMATION GIVEN IN THIS WORK.

	DOSES (IMPERIAL)
ACIDUM ACETYL-SALICYLICUM Now official as Acidum Acetyl- salicylicum	gr. 5 to gr. 15
„ ARSENIOSUM	gr. 1/64 to gr. 1/16
„ HYDROCYANICUM DIL.	min. 2 to min. 5
„ LACTICUM—Dose not given in B.P. '98	min. 15 to min. 30
„ TANNICUM	gr. 5 to gr. 10
ÆTHER—(For repeated administration)	min. 15 to min. 30
(For single administration)	min. 45 to min. 60
ÆTHER ACETICUS—(For repeated ad- ministration)	min. 15 to min. 30
(For single administration)	min. 45 to min. 60
ALUMEN—Now known as Alumen Purificatum	
AMMONII PHOSPHAS—Omitted	
ANTIMONIUM TARTARATUM (As an emetic)	gr. 1/25 to gr. 1/8 gr. 1/2 to gr. 1
ANTIPYRINUM	gr. 5 to gr. 15
BENZAMINÆ LACTAS (β -Eucaïne Lac- tate)—This is the official name for β -Eucaïne Lactate	gr. 1/8 to gr. 1/2
BISMUTH OXIDUM—Omitted	
BORAX—Now known as Borax Puri- ficatus	gr. 5 to gr. 15

	DOSES (IMPERIAL)
CALCH LACTAS—Added	gr. 10 to gr. 30
CERII OXALAS—Omitted	
CHLORALAMIDUM—Now official as Chloral Formamidum	gr. 15 to gr. 45
COCAINÆ HYDROCHLORIDUM	gr. 1/10 to gr. 1/4
CODEINA	gr. 1/4 to gr. 1
CODEINÆ PHOSPHAS	gr. 1/4 to gr. 1
DIAMORPHINE HYDROCHLORIDUM (Diacetyl-Morphine). This is the official name for Diacetyl-Morphine Hydrochloride	gr. 1/25 to gr. 1/8
ELATERINUM—Omitted	
ELATERIUM—Omitted	
EUCAINÆ LACTAS—Now official as Benzaminæ Lactas	<i>q.v.</i>
EUCALYPTI GUMMI—Now known as Kino Eucalypti	gr. 5 to gr. 20
EXTRACTUM ALOES BARBADENSIS— This title is now shortened to Extractum Aloes, as either Barbadoes or Socotrine Aloes may be used	
„ BELLADONNÆ VIRIDE—Omitted	
„ CIMICIFUGÆ LIQ.—Omitted	
„ EUONYMI SICCUM—Now known as Ext. Euonymi	
„ HYOSCYAMI VIRIDE—Now known as Ext. Hyoscyami, and standardised to contain 0·3% of alkaloids	
EXTRACTUM JALAPÆ—Omitted	
„ NUCIS VOMICÆ—Now standardised to contain 5% of strychnin	
„ PHYOSTIGMATIS—Omitted	

	DOSES (IMPERIAL)
FERRI ARSENAS—Omitted	
„ PHOSPHAS—Omitted	
„ PHOSPHAS SACCH.—Added	gr. 5 to gr. 10
FERRUM TARTRATUM—Now known as Ferri et Potassii Tartras	
GUAIACOL—Added	min. 1 to min. 5
GUAIACOL CARBONAS—Added	gr. 5 to gr. 15
HEXAMINA (<i>Hexamethylenetetramine</i>)— This is the official title for Hexa- methylenetetramine	gr. 5 to gr. 15
HEROIN HYDROCHLORIDUM	gr. 1/25 to gr. 1/8
HOMATROPINÆ HYDROBROMIDUM	gr. 1/64 to gr. 1/32
IPECACUANHÆ RADIX (As an emetic)	gr. 1/2 to gr. 2 gr. 15 to gr. 30
LIQUORES CONCENTRAT—All omitted	
LIQUOR ETHYL NITRITIS	min. 15 to min. 60
„ THYROIDÆI—Omitted	
LUPULINUM—Omitted	
MAGNESII CARBONAS— (Repeated administration) (Single administration)	gr. 5 to gr. 20 gr. 30 to gr. 60
„ SULPHAS (Repeated administration) (Single administration)	gr. 30 to gr. 90 gr. 120 to gr. 240
MAGNESII SULPHAS EFFERVES— (Repeated administration) (Single administration)	gr. 60 to gr. 180 gr. 240 to gr. 480
METHYL SALICYLAS—Added	min. 5 to min. 15
METHYLSULPHONAL—Added	gr. 10 to gr. 20
OLEUM TEREBINTHINÆ—Now known as Oleum Terebinthinæ Rectificatum	

	DOSES (IMPERIAL)
PELLETIERINÆ TANNAS—Added	gr. 2 to gr. 8
PHENACETINUM	gr. 5 to gr. 15
PHENAZONUM (<i>see</i> Antipyrinum)	
PHENOLPHTHALEINUM—Added	gr. 2 to gr. 5
PHOSPHORUS	gr. 1/100 to gr. 1/25
PHYSOSTIGMINÆ SULPHAS	gr. 1/64 to gr. 1/32
PICROTOXINUM—Omitted	
PILOCARPINÆ NITRAS	gr. 1/20 to gr. 1/5
PIL ALOES BARBADENSIS or SOCO- TRINÆ—Now known as Pil. Aloes	
„ CAMBOGIÆ COMP.—Omitted	
„ GALBANI COMP.—Omitted	
„ Phosphori	
This preparation now contains 1% of Phosphorus and is only half the strength of the B.P. '98 preparation	gr. 1 to gr. 4
„ SCAMMONII COMP.—Omitted	
POTASSII ACETAS	gr. 15 to gr. 60
„ CITRAS	gr. 15 to gr. 60
„ TARTRAS ACIDUS	gr. 15 to gr. 60
PULVIS CATECHU COMP.	gr. 10 to gr. 60
„ CINNAMOMI COMP.	gr. 10 to gr. 60
„ CRETÆ AROMATICUS cum OPIO (Opium)	gr. 10 to gr. 60
„ ELATERINI COMP.—Omitted	
„ JALAPÆ COMP.	gr. 10 to gr. 60
PULVIS OPII COMP.	gr. 5 to gr. 15
„ RHEI COMP.	gr. 10 to gr. 60
RESORCINUM—Added	gr. 1 to gr. 5
RHEI RADIX—Now known as Rhei Rhizoma	

	DOSES (IMPERIAL)
SALOL	gr. 5 to gr. 20
SANTONINUM	gr. 1 to gr. 3
SCAMMONIÆ RESINA	gr. 4 to gr. 8
SODA TARTARATA—Now known as Sodii et Potassii Tartras	
SODII ARSENAS—Now known as Sodii Arsenas Anhydrosus	
„ NITRIS	gr. 1/2 to gr. 2
„ PHOSPHAS ACIDUS—Added	gr. 30 to gr. 60
„ SULPHOCARBOLAS—Omitted	
SPIRITUS ÆTHERIS CO.—Omitted	
„ ÆTHERIS NITROSI	min. 15 to min. 60
STRONTII BROMIDUM—Added	gr. 5 to gr. 30
STRYCHNINA	gr. 1/64 to gr. 1/16
STRYCHNINÆ HYDROCHLORIDUM	gr. 1/64 to gr. 1/16
SYRUPUS ACIDI HYDRIODICI—Added	dr. 1/2 to dr. 1
„ CHLORAL — Strength increased nearly 10%	
„ CODEINÆ — Now known as Syrupus Codeinæ Phosph., and strength slightly increased	
THEOBROMINÆ ET SODII SALICYLAS— Added	gr. 10 to gr. 20
THYMOL—(As an anthelmintic)	gr. 15 to gr. 30
TINCTURA ACONITI—Strength increased; now about twice as strong as B.P. '98 preparation	min. 2 to min. 5
„ ALOES—Omitted	
„ Belladonnæ Strength reduced	
„ CANTHARIDIS Superseded by Tinct. Can- tharidini, which contains 0·01% of alkaloid	min. 2 to min. 5

	DOSES (IMPERIAL)
TINCTURA CIMICIFUGÆ—Omitted	
„ Colchici Sem Now known as Tinct. Colchici and strength reduced to about half that of B.P. '98 preparation	
„ CONII—Omitted	
„ Digitalis Strength reduced; now about $\frac{4}{5}$ the strength of B.P. '98 preparation	
„ IODI FORTIS Supersedes Liquor Iodi Fort	
„ IODI MITIS New title for Tinct. Iodi	
„ JABORANDI—Omitted	
„ Nucis Vomicae Strength reduced. It now contains about $\frac{1}{2}$ the amount of the strychnine contained in the B.P. '98 preparation	
„ Opii Strength increased; now about $\frac{1}{3}$ stronger than B.P. '98 preparation	
„ Opii Ammoniata Strength reduced; now con- tains approximately $\frac{1}{10}$ less morphine than that contained in B.P. '98 preparation	
„ Strophanthi Strength increased; now 4 times as strong as B.P. '98 preparation	min. 2 to min. 5
„ SUMBUL—Omitted	
TRIONAL	gr. 10 to gr. 20
UROTROPINE	gr. 5 to gr. 15

PART I.

Methods of Prescribing.

CHAPTER I.

THE PRESCRIPTION.

Definition—Decadence of prescription writing—Causes of—Principles and objects of medicinal combination—Rules for prescription writing—Analysis of prescription.

FROM a medical point of view the term prescription is used to denote the form or formula in which drugs are employed, either singly or collectively, in the treatment of disease.

Although there is probably an increasing tendency at the present time to prescribe drugs singly, there can nevertheless be no doubt of the manifold advantages that are afforded by a scientific and judicious combination of drugs. It is regrettable that the medical education of the present day offers the student so little opportunity of cultivating the art of prescription writing, inasmuch as it is the mastery of this art that constitutes one of the essential and indispensable acquirements of the accomplished physician. It can scarcely be questioned, too, that the art of prescribing has languished under the influence of the pernicious habit of using ready-made

formulæ, more particularly those dispensed in the compressed form of tablet, tabloid, and the like, with which the market has been flooded in recent years.

Be this as it may, there can be no doubt of the great value and importance of a thorough knowledge of the art of prescribing for the successful practice of medicine, and it is in the cultivation and display of this knowledge that one recognises a classical refinement of the science and art of healing.

The principles and objects of medicinal combination were exhaustively and luminously expounded many years ago by Dr. Paris in his "Pharmacologia," and for a complete account of the subject the reader is referred to this interesting and instructive work. It must suffice here to say that according to Dr. Paris (after Dr. Griffith's useful and concise analysis), the four main objects to be achieved by medicinal combination are:—

(1) The amplification or modification of the action of a medicine.

(2) The provision of the co-operative action of two or more drugs.

(3) The formation of a new remedy.

(4) The production of an appropriate form.

These objects require a little further explanation and consideration.

I. THE AMPLIFICATION OR MODIFICATION OF THE ACTION OF A MEDICINE.

The action of a drug may be supplemented by:—

(a) The combination of different preparations of the same drug. For instance, the combination of

the infusion and tincture of the same drug, when the active ingredients of the drug are not completely soluble in either water or alcohol.

(b) The combination of a drug with other drugs possessing a similar mode of action (law of Fordyce). Combinations of hypnotics, diaphoretics, cardiac tonics, hæmatinics, diuretics, antiseptics, &c., are instances of this method of augmenting the action of a remedy.

(c) The combination of a drug with another drug which in some hitherto unexplained manner enhances its action. Thus the aperient action of aloes is heightened by sulphate of iron; the diuretic effect of digitalis and squill is enhanced by mercury; the purgative effect of jalap is increased by ipecacuanha, that of podophyllum by sodium chloride. Again, the diaphoretic action of opium is very greatly assisted by ipecacuanha, as evidenced by the operation of the pharmaceutical preparation "*pulvis ipecacuanhæ compositus*."

The action of a drug may be modified by combining with it substances which prevent or antagonise its untoward effects and permit the operation of the influences which are required.

The prevention of the griping action of purgatives by aromatics and essential oils, the modification of the action of morphia by belladonna, and the correction of the constipating effect of opium by calomel or aloes, are illustrations of the operation of this method of combining drugs.

2. THE PROVISION OF THE CO-OPERATIVE ACTION OF TWO OR MORE DRUGS.

It is frequently desirable to obtain a therapeutic effect by combining drugs which produce like

results by different modes of action. Thus purgation may be effected by increasing peristalsis, by increasing intestinal secretion, by increasing the flow of bile, and so forth. Drugs operating in each of these directions are frequently and very properly prescribed together. The treatment of dilatation of the heart by the simultaneous exhibition of cardiac tonics and vaso-dilators is another instance of the co-operative action of drugs. Combinations of diuretics, diaphoretics, stomachics, &c., are frequently ordered on similar grounds. The co-operative action of drugs possessing dissimilar activities is of course frequently required in order to simultaneously produce different effects. Combinations of this kind are frequently ordered for the relief of symptoms, but unless the fundamental necessity of treating the causes of disease be clearly kept in mind, this method of prescribing is open to serious abuse.

3. THE FORMATION OF A NEW REMEDY.

Combinations of drugs which react chemically on one another can be made to subserve the formation of a new remedy. For instance, the combination of sulphate of iron and carbonate of potash, which is the formula ordered in the well-known pharmaceutical preparation "*mistura ferri composita*," results in the formation of carbonate of iron and sulphate of potash. The combination of an acid and an alkali which is so commonly ordered in an effervescing condition is another illustration of the formation of a new remedy as the result of chemical reaction.

4. THE PRODUCTION OF AN APPROPRIATE FORM.

Not the least of the advantages afforded by a

judicious combination of drugs is the means of providing a pleasant appearance and flavour. Short of sacrificing the efficacy of the active ingredients, every effort should be made to produce a mixture that is both pleasing to the eye and agreeable, or at least tolerable, to the palate. This element in prescription writing is only too frequently ignored or neglected, and the result is a nauseating draught which not only disgusts and disheartens the patient, but seriously discredits the art of prescribing.

The rules that should be observed in the writing of a prescription will now be briefly considered :

I. THE CHOICE OF THE REMEDY.

The first and most essential procedure is the selection of the remedy, which depends of course on the morbid condition that obtains and on the means at our disposal of combating it. The therapist should bear in mind that the removal of the causes rather than the symptoms of disease constitutes the primary and most important object of treatment. The choice of the particular preparation of the remedy that is employed must be determined in accordance with the channel of administration. This subject will be considered in detail in a later chapter.

2. THE DOSE.

The dose of the remedy is regulated by the age, sex and idiosyncrasy of the patient, by the disease and by the effect that is required.

For children under twelve years of age the dose should be determined by Young's method, which

prescribes the fraction of the adult dose that is obtained by dividing the age of the child in years by the age in years plus twelve. Thus the dose of a drug for a child of four years would be $\frac{4}{4+12} = \frac{4}{16} = \frac{1}{4}$ of the adult dose. For a child of eight years the dose would be $\frac{8}{8+12} = \frac{8}{20} = \frac{2}{5}$ of the adult dose, and so on.

Between the ages of twelve and twenty-one years the dose will vary between one half and the full dose. The fact must not be lost sight of that young children tolerate and frequently benefit by relatively large doses of certain drugs, to wit, iron, arsenic, belladonna, and antitoxins, &c. On the other hand they are particularly susceptible to the action of opium, which must be prescribed with care to infants and young children.

The periods of puberty, menstruation, pregnancy, lactation and the menopause have to be taken into consideration in prescribing drugs for women.

Idiosyncrasy or increased susceptibility to the influence of drugs should be enquired into and allowed for, more especially before exhibiting certain drugs, notably the bromides and iodides, arsenic, iron, belladonna and so forth.

The particular diseases, or rather disease processes, that require treatment are of influence in regulating the dosage. Thus the presence of kidney disease or of acute bronchitis calls for great discrimination in the use of opium. Again, digitalis must be employed with caution in aortic disease, and in certain morbid conditions of the cardiac walls.

The effects produced by a drug vary in accordance with the dosage that is employed, and this

factor in the therapeutical properties of drugs still offers a wide field for investigation. Thus ipecacuanha in small doses acts as an expectorant, in large doses as an emetic. Tartrate of potassium exerts an antacid and diuretic action in small doses (gr. xx.—xl.) and a purgative action in large doses (ʒi.—ʒii.). Again, carbonate of ammonia is used in small doses as a stimulant, in large doses as an emetic.

THE FREQUENCY, DURATION, AND TIME OF ADMINISTRATION OF DRUGS.

The frequency, duration and time of administration of drugs must be regulated by the morbid condition that obtains and by the effect that is desired, having due regard to the important factors of the accumulation and toleration of drugs.

COMBINATION OF DRUGS.

In combining drugs the question of the chemical, pharmaceutical and therapeutical relations have to be borne in mind. The subject will be fully dealt with under the heading of incompatibility.

THE ANALYSIS OF A PRESCRIPTION.

A classical prescription is composed of five parts, viz. :

(1) The superscription, which consists of the sign \mathcal{R} , an abbreviation for "recipe," the imperative mood of the verb "recipio."

(2) The inscription, which includes the names and doses of the drugs that are prescribed. These are usually arranged under four heads:—

(i.) The basis or principal ingredient.

(ii.) The adjuvant, which assists or hastens the action of the basis.

(iii.) The corrective, which modifies or corrects the action of the basis.

(iv.) The vehicle or excipient, which brings the whole combination into a suitable and convenient form for administration.

(3) The subscription or directions to the dispenser.

(4) The signature or directions to the patient.

(5) The name of the patient and of the prescriber and the date.

The following is an example of a typical prescription :

<i>Superscription</i>	...	R.	
			Magnesii Sulphatis, ℥j. (<i>Basis</i>).
			Magnesii Carbonatis, ℥ss. (<i>Adjuvant</i>).
<i>Inscription</i>	...		Tincturæ Cardamomi Compositæ, ℥ss. (<i>Corrective</i>).
			Aquæ Menthæ Piperitæ q.s. ad ℥j. (<i>Vehicle</i>).
<i>Subscription</i>	...	Misce.	Mitte doses tales xii.
<i>Signature</i>	...	Signa.	Two tablespoonfuls to be taken three times a day.

Patient's Name

Date

Signature or initials of Prescriber.

The four ingredients which make up the inscription in a typical prescription are not invariably ordered. The presence of the adjuvant and corrective is not always necessary, and either or both of these elements may at times be omitted with advantage. It is well to cultivate the habit of writing the names of drugs in full, and this plan should be rigidly adhered to in all cases in which the use of abbreviations could give rise to any sort of doubt with regard to the particular remedy that is ordered.

E. H. C.

CHAPTER II.

INCOMPATIBILITY.

*Kinds of incompatibility—Chemical incompatibility—
Rules for the avoidance of—Special forms of incom-
patibility—Pharmaceutical incompatibility—Thera-
peutical incompatibility.*

A SCIENTIFIC and successful combination of medicines, which is the highest expression of the art of prescribing, demands a knowledge not only of the therapeutic action, but also of the chemical and pharmaceutic properties of drugs. It is perhaps in connection with the second of these requirements that difficulties most commonly arise, but the danger of combining drugs which are incompatible in any of the respects just mentioned can for the most part be avoided by the application of an elementary knowledge of the laws of therapeutics and chemistry, and by the observance of a few simple rules. A brief consideration only of the chief sources of error can be attempted.

It is customary to distinguish three kinds of incompatibility, viz.:

- (1) Chemical.
- (2) Pharmaceutical.
- (3) Therapeutical.

CHEMICAL INCOMPATIBILITY.

Substances which, when brought into contact, undergo decomposition are said to be chemically incompatible. From a therapeutical point of view, however, the meaning of the term has become restricted, so that it applies only to those cases in which the reaction between two or more drugs leads to the formation of a substance that is inert, inelegant, or dangerous. The reason for this restriction in the meaning of the term chemical incompatibility is that in many combinations of drugs a chemical reaction is deliberately planned with the object of providing for the formation of a new remedy. We have already quoted instances of this method of combining drugs. Among other illustrations may be mentioned the combination of citric or tartaric acid with a carbonate or bi-carbonate of one of the alkalies in order to produce an effervescing draught; the combination of chlorate of potassium with hydrochloric acid with the intention of procuring a fresh solution of chlorine. Nevertheless a mixture of drugs that leads to the formation of a therapeutically active compound would still be regarded as an incompatible combination unless the reaction that takes place had been anticipated and deliberately planned.

With these reservations we will now tabulate a short list of rules for the guidance of the prescriber, which covers the most common and dangerous sources of error that accrue in devising combinations of drugs.

(1) Free acids or acid salts should not be combined with—

- (a) Alkalies and alkaline salts.
- (b) Tinctures (except in small quantities).
- (c) Glucosides.
- (d) Metallic oxides, hydrates and carbonates.
- (e) Bases and relatively weak (or volatile) salts.

(2) Alkalies and oxides of the alkalies should not be combined with—

- (a) Acids and acid salts.
- (b) Metallic salts.
- (c) Alkaloids and alkaloidal salts.
- (d) Chloral (liberation of chloroform).
- (e) Relatively weak salts.

(3) Alkaloids and their salts are incompatible with—

- (a) Alkalies and alkaline salts.
- (b) Tannic, phosphoric, and boracic acids.
- (c) Iodine, the iodides and bromides.

(4) Vegetable preparations which contain tannic or gallic acid are incompatible with—

- (a) Albumen.
- (b) Vegetable alkaloids.
- (c) Many metallic oxides.
- (d) Salts of iron (formation of inky solutions).

Chiretta, calumba and quassia are examples of vegetable bitters which do not contain tannin and which therefore are compatible with salts of iron.

(5) Aqueous solutions (water, infusions, &c.) should not be combined with—

- (a) Chloroform.
- (b) Fluid extracts.
- (c) Resinous tinctures (except in very small quantity).
- (d) Fixed and essential oils.
- (e) Metallic salts.

(6) Mucilages (acacia, gum arabic, &c.) should not be prescribed with—

- (a) Alcohol.
- (b) Iron and lead solutions.
- (c) Mineral acids.
- (d) Nitrous ether.
- (e) Glucosides.

The following examples of incompatibility between drugs which are in common use should be carefully remembered by the prescriber.

Oxidising substances, such as the chlorate or permanganate of potassium, the nitrates, &c., should not be ordered to be rubbed up with—

- (a) Tannic acid.
- (b) Chloride of ammonium.
- (c) Charcoal.
- (d) Sulphur.
- (e) Glycerine, &c.,

inasmuch as under these conditions an explosion or spontaneous combustion takes place.

A mixture of oxide of silver and creosote also undergoes spontaneous combustion.

Alum is incompatible with—

- (a) Alkalies and their carbonates.
- (b) Tannic acid and tannates.
- (c) Tartrates.
- (d) Lime.
- (e) Salts of lead.

Calomel is incompatible with—

- (a) Phenazonum.
- (b) Salts of iron and lead.
- (c) Alkalies (lime water, &c.).
- (d) Potassium iodide.

Calomel should not be prescribed with any preparation containing prussic acid, since this combination leads to the formation of the bichloride and bichyanide of mercury, which are both highly poisonous.

Cherry-laurel water should not be ordered with morphine, as this combination may give rise to the formation of cyanide of morphine, a virulent poison.

Carbonic acid and the carbonates are incompatible with—

(a) Alkaloids.

(b) Metallic salts.

(c) Acetic acid (contained in syrup of squill).

Chloral and cyanide of potassium decompose each other with the formation of hydrocyanic acid.

Cocaine and borax, when mixed, give rise to the precipitate of an insoluble borate of cocaine.

Chloroform is thrown out of solution when combined with weak spirit or glycerine.

Digitalis is incompatible with—

(a) Per-salts of iron.

(b) Acetate of lead.

(c) Preparations of cinchona.

Guaiacum is incompatible with—

(a) Spirit of nitrous ether.

(b) Mineral acids.

Infusion of gentian should not be prescribed with—

(a) Salts of iron or lead.

(b) Silver nitrate.

(c) Cherry-laurel water and infusion of cinchona.

Hydrochloric acid (dilute) is incompatible with—

(a) Salts of silver and lead.

(b) Tartar emetic.

Iodine and the iodides should not be prescribed with—

(a) Alkaloids.

- (b) Acids.
- (c) Spirit of nitrous ether.
- (d) Metallic salts.
- (e) Starch in any form.

Lime water is incompatible with—

- (a) Salts of mercury (decomposition planned in *lotio nigra*, and *lotio hydrargyri flava*).
- (b) Carbonates of the alkalies.
- (c) Morphine and quinine salts.

Perchloride of mercury is incompatible with—

- (a) Vegetable preparations containing albumen, or tannin.
- (b) Soap.
- (c) Alkalies, iodides, tartar emetic, &c., throw perchloride of mercury out of solution. Nevertheless a combination of perchloride of mercury and iodide of potassium is not considered an incompatible mixture, since the precipitate that is thrown down redissolves and forms a double salt which is therapeutically active. Chloride of ammonium increases the solubility of perchloride of mercury.

Perchloride of mercury, nitrate of silver, the salts of lead, iodine and the iodides should be prescribed with as few additions as possible.

Mineral acids are incompatible with vegetable acid salts.

Nitric acid (dilute) is incompatible with alcohol, sulphate of iron, acetate of lead, &c.

Spirit of nitrous ether is incompatible with—

- (a) Phenazonum.
- (b) Bromides and Iodides.

- (c) Sulphate of iron.
- (d) Tincture of guaiacum.
- (e) Gallic and tannic acids.
- (f) Mucilages.

Pepsin and pancreatin should not be prescribed together.

Phosphoric acid (dilute) is incompatible with—

- (a) Lime water.
- (b) Syrup of the pyro-phosphate of iron.
- (c) Alkaloids.
- (d) Metallic salts.

Quinine is incompatible with—

- (a) Alkalies and their carbonates.
- (b) Salicylic acid and its salts.
- (c) Infusion of roses.
- (d) Astringent infusions which throw down a precipitate of tannate of quinine.

Infusion of roses is incompatible with alkalies, and borax changes its colour to green.

Nitrate of silver is incompatible with—

- (a) Alkalies and their carbonates.
- (b) Chlorides.
- (c) All acids (except nitric and acetic).
- (d) Iodide of potassium.
- (e) Solutions of arsenic, astringent infusions and undistilled water.

Syrup of squill, which contains acetic acid, is incompatible with carbonate of ammonia.

Sulphuric acid (dilute) is incompatible with salts of lead.

Tannic acid and substances containing it (*i.e.*, most bitter and astringent preparations) are incompatible with—

- (a) Alkaloids.
- (b) Mineral acids.

(c) Alkalies.

(d) Salts of antimony, lead, silver, per-salts of iron.

(e) Gelatine and albumen.

(f) Arsenic.

PHARMACEUTICAL INCOMPATIBILITY.

Drugs which are physically incapable of mixing are said to be pharmaceutically incompatible.

The following examples of pharmaceutical incompatibility (modified after Griffiths) should be carefully borne in mind:—

Alcoholic tinctures of different strengths should not be mixed. Tinctures made with strong alcohol do not mix well with infusions and aqueous liquids.

Compound infusion of gentian is incompatible with compound infusion of cinchona.

Silver nitrate and lead acetate are pharmaceutically incompatible.

Infusions are incompatible with metallic salts.

Essential oils are incompatible with watery solutions exceeding one drop to the fluid ounce.

Fixed oils and copaiba are incompatible with aqueous solutions unless excipients are used.

“Aquæ” are already saturated.

THERAPEUTICAL INCOMPATIBILITY.

Combinations of drugs that operate antagonistically, so that in effect they counteract or neutralise one another, are said to be therapeutically incompatible. Nevertheless combinations of this kind are frequently ordered, and with perfect propriety, provided it is the intention

of the prescriber to modify or correct the action of a drug in certain respects, while in others the operation of the remedy is left untrammelled.

The composition of the majority of purgative pills illustrates this method of combining drugs.

A combination of drugs that completely antagonise one another is of course inadmissible. Thus, the simultaneous exhibition of atropine and physostigmine, or of atropine and jaborandi, would be examples of therapeutical incompatibility that should be avoided.

Among other instances of therapeutical incompatibility may be mentioned those of digitalin and saponin; chloral and strychnine; caffeine and morphine; muscarine and physostigmine, or camphor; alcohol and strychnine, &c.

E. H. C.

CHAPTER III.

METHODS OF ADMINISTRATION
OF DRUGS.

*Classification of methods—Mixtures—Pills—Powders—
Tablets—Confections—Gargles—Sprays—Pigments—
Lozenges—Pastils—Enemata—Suppositories—Oint-
ments—Pastes—Plasters—Powders—Lotions—
Liniments—Poultices—Hypodermic Injections—
Inhalations—Intra-venous Injections.*

INASMUCH as the degree and rapidity of absorption of drugs, together with their local and general effects, depend largely on the channel by which they are introduced, the question of the mode of administration of medicaments becomes a matter of considerable practical importance. Drugs may be exhibited in many ways, but in practice the principal methods employed are as follows—

- (1) By the alimentary tract.
 - (a) By the mouth and stomach.
 - (b) By the rectum.
- (2) By the skin and mucous membrane continuous with the skin.
 - (a) By inunction and fumigation; by local application in the form of a paint, plaster, insufflation, gargle, spray, injection, &c.

- (b) By hypodermic injection.
- (c) By the endermic method, or by application to wounds, or diseased surfaces, in the form of lotion, gargle, spray, wash, injection, poultice, &c.
- (3) By the respiratory tract.
 - By inhalation in the form of vapour, smoke, &c.
- (4) By intravenous injection.

The different preparations of remedial agents are selected and arranged, having regard, of course, to the effect that is required, in accordance with the form or forms most suited to the particular method of administration that is adopted. The types of prescription and the principles which underlie their construction will now be considered in some detail.

THE FORMULÆ EMPLOYED IN THE ADMINISTRATION OF DRUGS BY THE ALIMENTARY TRACT.

I. MIXTURES (MISTURÆ).

Mixtures are improvised combinations of drugs dissolved or suspended in a fluid vehicle, which usually consists of water or alcohol, though ether, glycerine, oil and other liquid substances are sometimes employed.

The preparations of drugs contained in a mixture are as a rule diluted by means of distilled or medicated water, infusions, decoctions and the like. The degree of dilution is usually such that each fluid ounce (*i.e.*, each dose) of the mixture contains an equal proportion of the quantities of the active ingredients which are ordered. In practice, however, it is better and safer to pre-

scribe a single dose of the proposed mixture, and then give directions for the preparation of as many more doses as are required. A single dose of a fluid medicinal preparation is commonly known as a draught (Haustus).

The observance of the rules laid down in the preceding chapter will obviate the danger of prescribing an incompatible combination of drugs. With respect to this source of error it may be pointed out that many of the so-called incompatible combinations of drugs may be rendered compatible by skilful dispensing. For instance, iodide of potassium and spirit of nitrous ether are said to be incompatible, and rightly so; yet if the spirit of nitrous ether be neutralised by a little carbonate of potassium, the addition of iodide of potassium gives rise to no chemical change and there is therefore no liberation of iodine, which otherwise happens. Again, the syrup of squill and carbonate of ammonia are theoretically incompatible for the reason given in the preceding chapter. If, however, the carbonate of ammonia be diluted as much as possible and the syrup of squill be then added very gradually the decomposition that takes place may be practically ignored. If the tincture of the perchloride of iron be added directly to mucilage of acacia a jelly is produced, but this result may be prevented by freely diluting the tincture before adding the mucilage. Many other illustrations of difficulties of this kind, which can be overcome by skilful dispensing, could be adduced, and will no doubt occur to the prescriber in the course of practice.

The active ingredients which are introduced into mixtures may be either soluble or insoluble in water, alcohol, glycerine, &c. It therefore

becomes a matter of considerable practical importance that the prescriber should be thoroughly conversant with the degree of solubility in water, alcohol, glycerine, &c., of the salts and drugs in common use.

The accompanying table (Table i.), though far from exhaustive, gives nevertheless the solubility in water, alcohol and glycerine, of the substances which are most frequently employed in medicine.

Substances which are insoluble in water and alcohol may be incorporated with mixtures in various ways. Light insoluble salts, such as the light carbonate of magnesium, can be distributed by vigorously shaking the bottle in which the mixture is contained. The heavy insoluble salts, as for instance the heavy carbonate of magnesium, subnitrate of bismuth, and oxalate of cerium, &c., can also be diffused by agitation; but as a rule it is preferable to suspend these powders by means of mucilage. The following mucilages are official:—

Mucilago Acaciæ.

Mucilago Tragacanthæ.

The pharmacopœial preparation, *Mistura Cretæ*, is an illustration of this method of suspending an insoluble salt. Gum tragacanth should be used in preference to gum acacia for the purpose of suspending bismuth in mixtures.

Certain drugs are rendered more soluble in water by the addition of other substances which act as solvents. Thus the solubility of gallic acid in water is greatly increased by citrate of potassium; borax aids the solution of benzoic acid, and sodium phosphate has a similar action. Again, chloride of ammonium increases the solubility of perchloride of mercury, and so forth.

TABLE I.
SOLUBILITY OF DRUGS IN WATER, ALCOHOL AND GLYCERINE.

Name of Drug	Water	Alcohol	Glycerine
Acetanilidum ...	{ 1 in 190 (cold) 1 in 18 (boiling) }	1 in 12 (60 per cent.) 1 in 4 (90 per cent.) }	1 in 40.
Acidum Arseniosum ...	{ 1 in 100 (cold) 1 in 20 (boiling) }	1 in 500 (90 per cent.)	1 in 8.
Acidum Benzoicum ...	{ 1 in 390 (cold) 1 in 12 (boiling) }	1 in 2 $\frac{3}{4}$ (90 per cent.)...	1 in 30.
Acidum Boricum ...	{ 1 in 25 (cold) 1 in 3 (boiling) }	1 in 28 (90 per cent.)...	1 in 4.
Acidum Chromicum ...	2 in 1 ...	Decomposes ...	Takes fire or explodes.
Acidum Citricum ...	10 in 6 ...	10 in 15 (90 per cent.)	1 in 2.
Acidum Gallicum ...	{ 1 in 100 (cold) 1 in 3 (boiling) }	1 in 8 (90 per cent.) ...	1 in 6 (with heat).
Acidum Lacticum dilutum ...	Freely soluble ...	Freely soluble ...	Freely soluble.
Acidum Salicylicum ...	{ 1 in 550 (cold) 1 in 9 (boiling) }	1 in 3 $\frac{1}{2}$ (90 per cent.)...	1 in 195.
Acidum Tannicum ...	10 in 5 ...	10 in 6 (90 per cent.) ...	{ 1 in 3. 1 in 1 (warmed).
Acidum Tartaricum ...	10 in 8 ...	1 in 2 $\frac{1}{2}$ (90 per cent.) ...	1 in 4 $\frac{1}{2}$.
Alumen ...	{ 1 in 11 (cold) ... 3 in 1 (boiling) }	Insoluble ...	{ 1 in 3 (Potash Alum). 1 in 1 $\frac{1}{2}$ (Ammonia Alum)
Ammonii Benzoas ...	1 in 6 ...	1 in 22 (90 per cent.)...	1 in 8.

Ammonii Bromidum	...	1 in 1.5...	...	1 in 15 (90 per cent.).	1 in 5.	—
Ammonii Carbonas	...	1 in 4	...	1 in 200 (90 per cent.)	—	—
Ammonii Chloridum	...	1 in 3	...	1 in 55 (90 per cent.).	3 in 4.	—
Ammonii Iodidum	...	4 in 3	...	1 in 3 (90 per cent.) ...	—	—
Ammonii Phosphas	...	1 in 3	...	Insoluble.	—	—
Amyl Nitris	...	Insoluble	...	Soluble.	—	—
Antimonium Tartaratum	...	{ 1 in 17 (cold) ... 1 in 2 (boiling)	...	Sparingly (60 per cent.).	—	—
Apomorphinæ Hydrochloridum	...	1 in 50	...	Insoluble (90 per cent.).	1 in 100.	—
Argenti Nitras	...	100 grains in 50 minims	...	1 in 18 (90 per cent.)...	Soluble.	—
Argenti Oxidum	...	Insoluble.	...	—	—	—
Aristol	...	Insoluble	...	Insoluble	Insoluble.	—
Atropina	...	1 in 500	...	1 in 3 (90 per cent.) ...	Soluble.	—
Bismuthi Carbonas	...	Insoluble.	...	—	—	—
Bismuthi Oxidum	...	Insoluble.	...	—	—	—
Bismuthi Salicylas	...	Insoluble.	...	Insoluble (90 per cent.).	—	—
Bismuthi Subnitras	...	Insoluble.	...	—	—	—
Borax	...	{ 1 in 25 (cold) 2 in 1 (boiling)	...	Insoluble	Soluble in equal weight.	—
Butyl Chloral Hydras	...	1 in 44	...	5 in 3 (90 per cent.)	1 in 1.	—
Caffeina	...	1 in 68	...	1 in 40 (90 per cent.).	—	—
Caffeinæ Citras	...	1 in 32	...	1 in 22 (90 per cent.).	—	—
Calcii Chloridum	...	1 in 1	...	1 in 3 (90 per cent.).	—	—
Calcii Hypophosphis	...	1 in 8	...	Insoluble.	—	—
Calcii Phosphas	...	Insoluble.	...	—	—	—
Camphor	...	1 in 700	...	1 in 1½ (90 per cent.).	2 in 1.	—
Chloral Hydras	...	4 in 1	...	5 in 1 (90 per cent.) ...	—	—

TABLE I.—Continued.

Name of Drug	Water	Alcohol	Glycerine
Chloroformum ...	1 in 150 (32° F.)	10 in 7 (90 per cent.)...	Insoluble.
Cocainæ Hydrochloridum	2 in 1 ...	1 in 2.5 (90 per cent.)...	1 in 2.5.
Codeina...	1 in 80 ...	1 in 2 (90 per cent.) ...	Soluble.
Creosotum ...	1 in 110 ...	Soluble ...	Miscible up to 1 in 3.
Cupri Sulphas ...	1 in 3.5 ...	Insoluble ...	1 in 2.5.
Ferri et Ammonii Citras	10 in 5 ...	Almost insoluble.	—
Ferri Arsenas ...	Insoluble.	—	—
Ferri et Quininae Citras	2 in 1 ...	Insoluble.	—
Ferri Perchloridum ...	Soluble	Soluble ...	Soluble.
Ferri Phosphas ...	Insoluble.	—	—
Ferri Sulphas ...	1 in 1.5 ...	Insoluble.	—
Ferrum Tartaratum ...	1 in 1 ...	Very sparingly.	—
Hydrargyri Iodidum Rubrum...	Practically insoluble	1 in 300 (90 per cent.)	Sparingly.
Hydrargyri Oxidum Flavum ...	Insoluble	Insoluble.	—
Hydrargyri Oxidum Rubrum...	Insoluble	Insoluble.	—
Hydrargyri Perchloridum ...	1 in 19 ...	1 in 5 (90 per cent.).	—
Hydrargyri Subchloridum ...	Insoluble	Insoluble ...	8 in 13.
Hyoscinae Hydrobromidum ...	1 in 4 ...	1 in 14 (90 per cent.).	—
Hyoscyaninae Sulphas	2 in 1 ...	1 in 4.5 (90 per cent.).	Miscible.
Ichthyol...	Soluble	Partly soluble ...	1 in 100.
Iodoformum ...	Sparingly	1 in 120 (90 per cent.)	—

Iodum ...	...	I in 7,000	...	I in 12 (90 per cent.)...	I in 65.
Lithii Benzoas ...	...	I in 2.5...	...	I in 15 (90 per cent.).	—
Lithii Carbonas	..	I in 70 (60° F.)	...	Insoluble.	—
Lithii Citras ...	...	I in 2 ...	...	Insoluble.	—
Lithii Salicylas...	...	4 in 3 ...	...	I in 2.	—
Magnesia ...	...	Practically insoluble.	...	—	—
Magnesiæ Carbonas	..	Nearly insoluble.	...	—	—
Magnesiæ Sulphas	...	10 in 13	...	Insoluble.	Insoluble.
Menthol ...	...	Insoluble	...	5 in 1 (90 per cent.) ...	I in 5.
Morphinæ Acetas	...	I in 2.5...	...	I in 100 (90 per cent.)	I in 8.
Morphinæ Hydrochloridum	...	I in 24 ...	...	I in 50 (90 per cent.)...	—
Morphinæ Sulphas	...	I in 21 ...	...	Sparingly.	—
Morphinæ Tartras	...	I in 10 ...	...	Sparingly.	—
Naphthol ...	...	Insoluble	...	I in 2 (90 per cent.) ...	I in 40.
Nitroglycerinum	...	Very sparingly...	...	Very soluble.	—
Paraldehydum ...	...	I in 8.5 (60° F.)	...	Freely miscible.	—
Phenacetinum ...	...	{ I in 700 (cold) I in 50 (boiling) }	...	I in 21 (90 per cent.).	—
Phenazonum ...	...	I in 1 ...	...	3 in 4 (90 per cent.).	—
Pilocarpinæ Nitras	...	I in 8 ...	...	I in 50 (90 per cent.).	—
Plumbi Acetas ...	...	I in 2 ...	...	I in 20 (90 per cent.)...	I in 2.
Plumbi Carbonas	...	Insoluble.	...	—	—
Plumbi Iodidum	...	Sparingly.	...	—	—
Plumbi Nitras ...	...	Soluble	...	Soluble.	—
Potassa Caustica	...	2 in 1 ...	...	I in 3.5 (90 per cent.)...	I in 3.
Potassa Sulphurata	...	I in 2.	...	—	—
Potassii Acetas ...	...	2 in 1 ...	...	I in 2 (90 per cent.).	—

TABLE I.—Continued.

Name of Drug	Water	Alcohol	Glycerine
Potassii Bicarbonas	1 in 3·2...	Insoluble (90 per cent.).	—
Potassii Bichromas	1 in 10.	—	—
Potassii Bromidum	10 in 17	1 in 95 (90 per cent.).	—
Potassii Carbonas	4 in 3	Insoluble (Abs. Alc.).	—
Potassii Chloras	1 in 16	Insoluble	—
Potassii Citras	10 in 6	... ..	Soluble.
Potassii Iodidum	4 in 3	1 in 90 (60 per cent.)...	1 in 2.
Potassii Nitras	1 in 4	1 in 10 (90 per cent.)...	1 in 3.
Potassii Permanganas	1 in 18	Sparingly (90 per cent.)	—
Potassii Tartras	10 in 6	Decomposes.	—
Potassii Tartras Acidus	1 in 200 (cold)	Insoluble.	—
	1 in 16 (boiling)	Insoluble.	—
Quininæ Hydrochloridum	1 in 37 (cold)	1 in 1 (90 per cent.).	—
	1 in 1 (boiling)		
Quininæ Sulphas	1 in 800 (cold)	1 in 65 (90 per cent.)...	1 in 40.
	1 in 25 (boiling)		
Resorcinum	4 in 3	4 in 3 (90 per cent.) ...	1 in 1.
Saccharum lactis	1 in 6	Insoluble.	—
Saccharum purificatum	100 in 45	1 in 100 (90 per cent.).	—
Salol	Insoluble	1 in 20 (90 per cent.).	—
Santoninum	Sparingly	1 in 40 (90 per cent.)...	Slightly.

Soda Tartarata ...	...	1 in 1'5...	...	Insoluble.	—
Sodii Benzoas ...	...	1 in 2 ...	...	1 in 25 (90 per cent.).	—
Sodii Bicarbonas ...	...	1 in 12 ...	...	Insoluble.	—
Sodii Bromidum ...	...	5 in 6 ...	...	1 in 16 (90 per cent.).	—
Sodii Carbonas ...	...	5 in 8 (60° F.)...	...	Insoluble.	—
Sodii Chloridum ...	...	1 in 2'75	...	1 in 200 (90 per cent.).	—
Sodii Hypophosphis ...	...	1 in 1 ...	...	1 in 20 (90 per cent.)...	1 in 2.
Sodii Iodidum ...	...	1 in 6 ...	...	1 in 3 (90 per cent.) ...	1 in 1.
Sodii Nitris ...	...	5 in 6 ...	...	1 in 50 (90 per cent.).	—
Sodii Phosphas ...	...	1 in 6 ...	...	Insoluble.	—
Sodii Salicylas ...	...	1 in 1 ...	...	1 in 5 (90 per cent.).	—
Sodii Sulphas ...	...	1 in 3 ...	...	Insoluble (90 per cent.).	—
Sodii Sulphis ...	...	3 in 4 ...	...	Insoluble ...	—
Sodii Sulphocarbolas ...	...	1 in 6 ...	...	1 in 150 (90 per cent.)...	1 in 25.
Strychnina ...	...	1 in 6,700	...	1 in 160 (90 per cent.).	1 in 5'5.
Strychninæ Hydrochloridum ...	...	1 in 35 ...	...	1 in 60 (90 per cent.).	—
Strychninæ Sulphas ...	...	1 in 50 ...	...	1 in 109.	—
Sulphonal ...	...	1 in 500	...	1 in 78 (90 per cent.).	—
Thymol ...	...	1 in 1,500	...	8 in 3 (90 per cent.) ...	1 in 190.
Zinci Acetas ...	...	10 in 25	...	1 in 40 (90 per cent.).	—
Zinci Chloridum ...	...	10 in 4 ...	...	1 in 1 (90 per cent.) ...	1 in 3'75.
Zinci Sulphas ...	...	10 in 7 ...	...	Insoluble.	—
Zinci Sulphocarbolas ...	...	1 in 2 ...	...	1 in 2'5.	—
Zinci Valerianas ...	...	1 in 120	...	1 in 60.	—

Many extracts, confections and gum resins can be incorporated with mixtures by means of trituration. The amount of an extract or confection in a mixture should not exceed half a drachm to the fluid ounce. The tinctures of *cannabis indica*, camphor, guaiacum, and other resinous bodies should not be added, *in any quantity*, to water without previous trituration with a little mucilage of acacia or tragacanth, otherwise the resin will be thrown out of solution and stick to the sides of the bottle. A small quantity of a resinous tincture is miscible with water by means of trituration without the help of mucilage.

Oils, fats, many resinous preparations and some vegetable powders may be suspended in mixtures by the aid of excipients. A vegetable powder can sometimes be rendered miscible with water by the help of a solvent. For instance, liquorice powder treated with liquor potassæ forms an almost clear brown solution with water. A mixture should not as a rule contain more than a drachm to a drachm and a half of a vegetable powder to the ounce.

An emulsion is a mixture of milky appearance and creamy consistence produced by the mechanical union of an oil, fat or resin with water under the influence of an excipient, which promotes and maintains the combination.

The emulsifying agents or excipients most commonly used are—

(1) Gum acacia and gum tragacanth or their mucilages, which are employed in the emulsification of oils, resins, copaiba, &c.

(2) Alkalies (liquor potassæ, &c.) for fixed oils, copaiba, &c.

- (3) Yolk of egg for cod liver oil, &c.
- (4) Almond mixture for turpentine, &c.
- (5) Tincture of quillaia for cod-liver oil, &c.
- (6) Milk for scammony, liquid extract of male fern, &c.
- (7) Water for gum resins.
- (8) Syrups, confections, extracts, &c.

The pharmaceutical preparation *Mistura Guaiaci* constitutes an excellent example of a simple emulsion. The production of a successful emulsion depends not only on manipulative skill but also on the particular excipient that is used. In other words, certain substances emulsify better with one excipient than with another. A short list, therefore, of the chief substances which require administration in the form of an emulsion, and of the excipients which are most adapted for the purpose of effecting this transformation, will be found of service.

Cod-liver oil is most satisfactorily emulsified by gum tragacanth or gum acacia, or by tincture of quillaia and an alkali; castor oil by gum acacia or its mucilage, or by syrup and liquor potassæ; oil of male fern by mucilage, milk, tincture of quillaia, or almond mixture; oil of turpentine by mucilage of acacia, soap, yolk of egg, or almond mixture; oil of sweet almonds forms a good emulsion with an alkali.

A volatile oil should be mixed with a fixed oil when prescribed in the form of an emulsion. Spermaceti after trituration with a few drops of rectified spirit forms a good emulsion with yolk of egg, which constitutes the most satisfactory emulsifying agent for all solid fats.

Copaiba may be emulsified with gum acacia,

the yolk of egg, tincture of quillaia, or liquor potassæ; cubebs with mucilage or milk.

Balsam of Peru emulsifies with mucilage or sugar and yolk of egg; tincture of benzoin with mucilage or yolk of egg; tincture of tolu with mucilage.

Scammony forms an emulsion with water, but scammony resin requires milk or some other excipient. Gum resins, as for instance myrrh or ammoniacum, emulsify with water alone, but the addition of a small quantity of mucilage assists the emulsification of these substances.

Emulsions are frequently improved by the introduction of borax, but on the other hand they tend to separate on the addition of spirit or glycerine unless used very sparingly.

The importance of presenting mixtures in an agreeable and palatable form has already been emphasised, and herein experience in the art of dispensing is of very great service, inasmuch as it affords the opportunity of acquiring a practical knowledge of the best means of correcting and disguising the taste of drugs. It is seldom impossible to prescribe medicines in an acceptable or at least tolerable form, even to children, and there is little room for doubt that neglect of the attempt to do so conduces to the use of proprietary articles, and in this way to the habit of self-drugging.

A large variety of flavouring agents are available in the form of syrups, tinctures, medicated waters, &c., for the purpose of correcting and disguising the taste and smell of drugs, and although the selection of the particular kind of medicinal seasoning that is used is frequently a matter of

little moment, it not uncommonly calls for the display of judgment and discrimination.

Many disagreeable drugs are now given in gelatine capsules or in wafer papers, a method of administration which completely removes the difficulty of prescribing these substances in a pleasant and palatable manner.

Nevertheless it is frequently desirable and sometimes necessary to prescribe drugs in the form of a mixture, and the following table (Table ii.) has been compiled with the object of showing the amount and kind of flavouring agent which is effectual for the purpose of disguising the objectionable taste and smell of a given quantity of the more important drugs used in medicine.

PILLS (PILULÆ).

Pills are soft globular or ovoid masses of medicinal substances which for convenience of swallowing should not, as a general rule, exceed five grains in weight. The pill-mass is the most suitable form for the administration of drugs which are:—

(1) Not conveniently given in solution, as, for instance, heavy insoluble powders, gum resins, extracts, &c.

(2) Intended to act slowly.

(3) Intended to act on a part of the alimentary tract beyond the stomach.

(4) Nauseous, or otherwise objectionable to taste or smell.

The art of making a good pill-mass demands not only manipulative skill and dexterity, but also the use of a suitable excipient. The following is a list of the excipients most commonly used in

TABLE II.

THE DOSE AND CORRECTION OF TASTE OF DRUGS.

Name of Drug.	Dose.	Form of Adminis- tration.	Correction of Taste.
Acetanilidum	gr. ii.—iii.	{ powder mixture	Saccharum gr. x. Tinctura Lavandulæ Composita ʒss. and Spiritus Chloroformi ℥x.; <i>or</i> Mucilago Acaciæ, q.s. Syrupus ʒss. and Aqua Menthæ Piperitæ ʒi.
Acidum Arseniosum	gr. $\frac{1}{10}$ — $\frac{1}{15}$	{ pill mixture	Milk Sugar and Glucose (Squire.)
Arsenicæ Liquor	℥ii.—viii.	{ mixture (mixture	Spiritus Chloroformi ℥v.—x. and Infusum Calumbæ ʒi.; <i>or</i> Infusum Gentianæ Compositum ʒi.
Arsenici Hydrochloricus Liquor ..	℥ii.—viii.	{ mixture (mixture	Tinctura Aurantii ℥x.—xx. and Infusum Calumbæ ʒi.
Acidum Benzoicum	gr. v.—xv.	{ pill mixture	Syrupus Tolu ʒss.—i.; <i>or</i> Spiritus Ætheris and Syrupus Aurantii ʒā ʒss.—i.; <i>or</i> Glycerinum Boracis ʒss.—i. and Aqua Cinnamomi ʒi.
Acidum Boricum	gr. v.—xv.	{ pill mixture	Theriaca and Glucosum Liquidum ʒā. (Squire.) Tinctura Gentianæ Composita ʒss. and Aqua Menthæ Piperitæ ʒi.
Acidum Carbolicum	gr. i.—ii.	{ pill mixture	Pulvis Glycyrrhizæ; <i>or</i> Pulvis Glycyrrhizæ and Pulvis Traga- canthæ Compositus; <i>or</i> Mica Panis.
Acidum Citricum	gr. v.—xv.	{ mixture mixture	Glycerinum ʒss. and Aqua Menthæ Piperitæ ʒi.; <i>or</i> Tinctura Aurantii ʒss., Syrupus ʒss. and Aqua Menthæ Viridis ʒi. Syrupus Limonis ʒi. When given with an Alkaline Mixture for the purpose of producing Effervescence it should be borne in mind that 17 grains of Citric Acid neutralize about :— 24 grains Potassium Bicarbonate; 34 grains Sodium Carbonate; 20 grains Potassium Bicarbonate; 12 grains Ammonium Carbonate; 20 grains Sodium Bicarbonate; 11 grains Magnesium Carbonate.
Acidum Gallicum	gr. v.—xv.	{ powder pill mixture	Saccharum gr. x.—xxx. Thirty grains of Gallic Acid mixed with 3 minims of Glycerine make 6 pills. (Squire.)
Acidum Hydrobromicum Dilutum ..	℥xv.—ʒi.	{ mixture mixture	Spiritus Chloroformi ℥x., Glycerinum ʒss., and Infusum Rose Acidum ʒi. Syrupus ʒi.

Acidum Hydrochloricum Dilutum ..	℥v.—xx.	mixture	Tinctura Cardamomi Composita 3ss., Syrupus Aurantii ʒi.; or Spiritus Chloroformi ℥x.; or Tinctura Aurantii 3ss. and Infusum Gentianæ Compositum ʒi.
Acidum Hydrocyanicum Dilutum ..	℥ii.—vi.	mixture	Mistura Amygdalæ 3ss.; or Aqua Carui 3ss.
Acidum Lacticum ..	℥v.—xx.	mixture	Glycerinum ʒi.; or Syrupus ʒi.
Acidum Nitricum Dilutum ..	℥v.—xx.	mixture	Tinctura Aurantii ℥xx.—3ss. and Syrupus Aurantii ℥xx.—3ss.; or Tinctura Aurantii ℥xx.—3ss. and Tinctura Gentianæ Composita 3ss.
Acidum Phosphoricum Dilutum ..	℥v.—xx.	mixture	Tinctura Cardamomi Composita 3ss. and Syrupus Aurantii 3ss.; or Tinctura Aurantii 3ss.; or Spiritus Chloroformi ℥x. and Infusum Gentianæ Compositum ʒi.
Acidum Salicylicum ..	gr. v.—xx.	mixture	Borax gr. x.—xxv.; or Potassii Citras gr. xx.—xl. and Syrupus Aurantii 3ss., Aqua Cinnamomi ʒi.
Acidum Sulphuricum Dilutum ..	℥v.—xx.	mixture	Syrupus Zingiberis 3ss. and Aqua Menthæ Piperitæ ʒi.; or Syrupus Mori ʒi.; or Tinctura Cardamomi Composita 3ss. and Aqua Chloroformi ʒi.
Acidum Sulphurosum ..	3ss.—i.	mixture	Spiritus Chloroformi ℥x., Aqua Destillata ʒi.; or Spiritus Chloroformi ℥x. and Infusum Calumbæ ʒi.
Acidum Tannicum ..	gr. ii.—v.	{ pill mixture	Glycerinum.
Acidum Tartaricum ..	gr. v.—xx.		Syrupus Zingiberis ʒi.; or Glycerinum 3ss.
Aconiti Tinctura ..	℥v.—xx.	mixture	Syrupus Limonis ʒi.
Ætheris Spiritus ..	℥x.—3ss.	mixture	Syrupus Aurantii 3ss.—i.; or Syrupus Limonis 3ss.—i.
Alcinum ..	gr. ʒ—ii.	pill mixture	Tinctura Lavandulæ Composita ʒi. and Aqua Carui ʒi.; or Spiritus Ammoniac Aromaticus and Syrupus aa 3ss. and Aqua Pimentæ ʒi.
Alumen ..	gr. v.—x.		Extractum Rheii; or Extractum Glycyrrhizæ.
Aluminii Chloridum ..	gr. ii.—iv.	pill mixture mixture mixture mixture mixture	Syrupus ʒi.; or Glycerinum 3ss.—i.; or Syrupus ʒi. and Infusum Rosæ Acidum ʒi.
Ammoniacum ..	gr. v.—xv.		Pulvis Glycyrrhizæ and Glycerinum Tragacanthæ.
Ammonii Acetatis Liquor ..	ʒii.—vi.		Syrupus Tolu 3ss.—i. and Aqua Menthæ Piperitæ ʒi.
Ammonii Citratidis Liquor ..	ʒii.—vi.		Syrupus Tolu ʒi. and Aqua Menthæ Piperitæ ʒi.
Ammonii Benzoeas ..	gr. v.—xv.		Syrupus Tolu 3ss.—i. and Aqua Chloroformi ʒi.
Ammonii Bromidum ..	gr. v.—xxx.		Syrupus Aurantii ℥xx.—3ss., Tinctura Cardamomi Composita 3ss. and Aqua Chloroformi ʒi.; or Syrupus Pruni Virginianæ ʒi. and Aqua Chloroformi ʒi.
Ammonii Carbonas ..	gr. iii.—x.	mixture	Syrupus Aurantii ℥xx.—3i.; or Tinctura Cardamomi Composita 3ss. and Infusum Caryophylli ʒi.

TABLE II. — *Continued.*

Name of Drug.	Dose.	Form of Administration.	Correction of Taste.
Ammonii Chloridum ..	gr. x.—xv.	mixture	Extractum Glycyrrhizæ Liquidum ʒss.—i.; <i>or</i> Syrupus Aurantii ʒss.—i. and Spiritus Chloroformi ℥x.; <i>or</i> Tinctura Limonis ʒss.—i. and Spiritus Chloroformi ℥x.
Ammonii Iodidum ..	gr. ii.—v.	mixture	Syrupus Aurantii ʒss.—i.; <i>or</i> Syrupus Tolu ʒss. and Syrupus Pruni Virginianæ ʒss.
Ammonii Valerianas ..	gr. i.—viii.	mixture	Glycerinum ʒss.—i. and Aqua Fœniculi ʒi.
Antimonium Tartaratum ..	gr. ʒ—i	{ mixture	Syrupus Tolu ʒss.; <i>or</i> Tinctura Lavandulæ Composita ʒss.; <i>or</i> Mistura Amygdalæ ʒss.
Apomorphinæ Hydrochloridum ..	gr. ʒ ⁿ —1 ^b	{ pill	Saccharum Lactis and Glucosum Liquidum. (Squire.)
Argenti Nitras..	gr. ʒ—i	{ mixture	Syrupus Pruni Virginianæ ʒss.; <i>or</i> Syrupus Limonis ʒss. Unguentum Kaolini.
Argenti Oxidum ..	gr. ʒ—ii.	{ pill	Glycerini ʒss.; <i>or</i> Syrupus Acaciæ ʒss. and Aqua Cinnamomi ʒi.
Arsenii Iodidum ..	gr. ʒ ⁿ —i	{ pill	Unguentum Kaolini.
Asafetida ..	gr. v.—xv.	{ pill	Saccharum Lactis and Glucosum Liquidum. (Squire.)
Asafetidæ Tinctura ..	ʒss.—i.	mixture	Alcohol Dilutum.
Atropinæ Sulphas ..	gr. ʒ ⁿ —1 ^b	{ mixture	Tinctura Lavandulæ Composita ʒss., Spiritus Ammoniac Aromaticus ʒss.—i. and Mucilago Acaciæ ʒss.
Auri Chloridum ..	gr. ʒ—ii.	{ pill	Syrupus Aurantii ʒss.
Balsamum Peruvianum ..	℥v.—xv.	mixture	Saccharum Lactis and Glucosum Liquidum. (Squire.)
Belladonnæ Tinctura..	℥v.—xv.	mixture	Mucilago Acaciæ and Saccharum.
Benzoini Composita Tinctura ..	ʒss.—i.	mixture	Syrupus Aurantii ℥x.—xxx.
Bismuthi Carbonas ..	gr. v.—xv.	mixture	Tinctura Tolu ʒss. and Tinctura Camphoræ Composita ʒss.; <i>or</i> Extractum Glycyrrhizæ Liq. ʒss.—i.; <i>or</i> Mucilago Acaciæ.
Bismuthi Salicylas ..	gr. v.—xx.	mixture	Aqua Floris Aurantii, Glycerinum ʒi. ℥x., Pulvis Tragacanthæ Compositus ʒi. and Aqua Chloroformi ʒi.
Bismuthi Subnitras ..	gr. v.—xx.	mixture	Mucilago Tragacanthæ ʒi. and Spiritus Chloroformi ℥v.—x.; <i>or</i> Syrupus Acaciæ ʒi. and Aqua Cinnamomi ʒi.
Eisumthi et Ammonii Citratis (Liquor)	ʒss.—i.	mixture	Mucilago Tragacanthæ ʒi., Aqua Menthæ Piperitæ ʒi.; <i>or</i> Aqua Cinnamomi ʒi.; <i>or</i> Spiritus Chloroformi ℥x. and Aqua Anisi ʒi.

Borax	gr. v.—xx.	..	..	..	mixture	Glycerinum 3ss. and Aqua Menthae Piperitæ 3i.
Butyl-Chloral Hydras	gr. v.—xx.	..	..	..	{ pill mixture	Pulvis Tragacanthæ Compositus and Syrupus. Tinctura Cardamomi Composita 3ss., Glycerinum ℥xx.—3i and Aqua Chloroformi 3i.; or Elixir Simplex 3i. and Glyce- [rinum 3ss.
Caffeina	gr. i.—v.	..	..	..	{ pill mixture	Glucosum; or Glycerinum Tragacanthæ.
Caffeina Citras	gr. ii.—x.	..	..	..	mixture	Syrupus Aurantii and Aqua Chloroformi 3i.
Cajuputi Oleum	℥j.—iii.	..	..	..	pill	Syrupus Limonis 3i. and Aqua Chloroformi 3i.
Calcii Carbonas Præcipitatus	gr. v.—5i.	..	..	..	powder	Sapo Animalis and Pulvis Glycyrrhizæ; or on Sugar.
Calcii Chloridum	gr. v.—xv.	..	..	..	mixture	Tasteless.
Calcii Hypophosphis.	gr. iii.—x.	..	..	..	mixture	Glycerinum 3ss.—i. and Aqua Camphoræ 3i.; or Extractum Glycyrrhizæ Liquidum 3ss.—i.; or as Elixir Calcii Chloridi.
Calcii Phosphas	gr. v.—xv.	..	..	..	powder	Syrupus 3ss.—i.; or Glycerinum ℥℥x.—xxx.
Calx Sulphurata	gr. 4—i.	..	..	..	pill	Saccharum (or as Syrupus).
Camphora	gr. ii.—v.	..	..	..	{ pill mixture	Glucosum and, if necessary, Saccharum Lactis.
Camphora Mmnbromata	gr. ii.—v.	..	..	..	{ pill mixture	Sapo Animalis and Spiritus Rectificatus; or Extractum Bel- ladonnæ.
Cannabis Indicæ Extractum	gr. 4—i.	..	..	..	{ pill mixture	Pulvis Glycyrrhizæ.
Cannabis Indicæ Tinctura	℥v.—xv.	..	..	..	mixture	Pulvis Glycyrrhizæ; or Lycopodium. Glycerinum ℥℥x.—xx. and Aqua Anethi 3i.
Cantharidis Tinctura.	℥i.—x.	..	..	..	mixture	Mucilago Acaciæ 3i., Syrupus Zingiberis 3ss. and Aqua Men- tha Piperitæ 5i.; or Mucilago Acaciæ 3i. and Aqua Cam- phoræ 3i.; or Syrupus Acaciæ 3i. and Aqua Cinnamomi 3i.
Carbo Ligni	3i.—ii.	..	..	..	tablet	Extractum Glycyrrhizæ Liquidum ℥℥x.—xxx. well diluted; or Spiritus Chloroformi ℥v.—x. and Elixir Simplex 3ss.
Cascaræ Sagradæ Liquidum (Extractum)	3ss.—i.	..	..	..	mixture	Chocolate.
Catechu Tinctura	3ss.—i.	..	..	..	mixture	Extractum Glycyrrhizæ Liquidum 3ss. and Syrupus Zingiberis 3ss.; or Tinctura Aurantii 3ss., Syrupus 3ss. and Aqua Cinnamomi 3i.
Cerii Oxalas	gr. ii.—x.	..	..	..	powder	Spiritus Chloroformi ℥v.—x., Aqua Cinnamomi 3i.; or Tinctura Camphoræ Composita ℥℥x.—3i. and Mistura Cretæ 3i.
Chloral Hydras	gr. v.—xx.	..	..	..	{ mixture pill	Saccharum Lactis.
Chloralamidum	gr. xv.—xlv.	..	..	..	mixture	Syrupus Aurantii ℥xx.—3i. and Aqua Cinnamomi 3i.; or Tinctura Cardamomi Composita 3ss.—i., Syrupus 3ss. and Infusum Caryophylli 3i.; or Aqua Chloroformi 3i.
		..	..	..		Syrupus and Pulvis Tragacanthæ.
		..	..	..		Mucilago Acaciæ 3ii., Syrupus 3ss. and Aqua 3i.; or Alcohol 3ss.—3i., Glycerinum 3ss., Syrupus Aromaticus 3i. and Aqua 3i.; or Mistura Amygdalæ 3i.

TABLE II.—Continued.

Name of Drug.	Dose.	Form of Administration.	Correction of Taste.
Cimicifugæ Tinctura..	3ss.—i.	mixture	Syrupus Aurantii 3ss.—i., Aqua Cinnamomi 3i.; <i>or</i> Syrupus 3ss., Mistura Amygdalæ Amaræ 3i.; <i>or</i> Elixir Simplex 3ss. and Aqua Chloroformi 3i.
Cinchonæ Composita Tinctura	3ss.—i.	mixture	Syrupus Aurantii 3ss.—i.; Aqua Chloroformi 3i.
Cinchonæ Liquidum Extractum	℥v.—xv. gr. 16—1	tablet	Syrupus Tolu 3ss.—i.; Aqua Floris Aurantii 3il. Chocolate.
Cocaina..	3ss.—i.	mixture	Syrupus Aurantii Floris 3ss.
Cocæ Liquidum Extractum..	gr. 1—1	pill	Saccharum Lactis and Syrupus.
Cocainæ Hydrochloridum ..	gr. 1—1	{ pill mixture	Pulvis Glycyrrhizæ and Theriaca.
Codeina..	gr. 1—ii.	{ pill mixture	Spiritus Chloroformi ℥v.—x., Aqua Menthæ Piperitæ 3i.; <i>or</i> Infusum Caryophylli 3i.
Copaiba ..	3ss.—i.	mixture	Mucilago; Tinctura Quillaiæ; Liquor Potassæ; <i>or</i> Mistura Amygdalæ as excipients: Aqua Cinnamomi; Aqua Menthæ Piperitæ 3i.; <i>or</i> Tinctura Aurantii for correction of taste.
Creosotum	℥i.—v.	mixture	Spiritus Rectificati ℥xv., Tinctura Gentianæ Composita ℥xv. and Extractum Glycyrrhizæ Liquidum 3ss.; <i>or</i> Mucilago and Syrupus Aurantii.
Cubebæ Pulvis..	3ss.—i.	{ pill mixture	Sapo Animalis and Pulvis Glycyrrhizæ.
Cupri Sulphas ..	gr. 1—ii.	{ pill mixture	Mucilago and Syrupus Aurantii. Wafer Paper or Cachets.
Cusso Infusum..	3ii.—iv.	mixture	Pulvis Tragacanthæ and Dispensing Syrup. (Squire.)
Digitalis Infusum ..	3ii.—iv.	mixture	Syrupus 3ss.—i.
Digitalis Tinctura ..	℥v.—xv.	mixture	Succus Limonis Recentis 3ii.—iv.
Elaterium ..	gr. 16—1	pill	Syrupus Aurantii 3ss.—i.
Ergotæ Liquidum Extractum	℥v.—xxx.	mixture	Syrupus Aurantii 3ss.—i. Extractum Hyoscyami.
Erythrol Nitras ..	gr. 1—i.	tablet	Tinctura Aurantii 3ss. and Aqua Chloroformi 3i.; <i>or</i> Syrupus Zingiberis 3ss.—i., Glycerinum 3ss. and Aqua Cinnamomi 3i.
Eucalypti Oleum ..	℥1/2—iii.	mixture	Chocolat.
Euonymi Extractum (Siccum)	gr. i.—ii.	pill	Mucilago Acaciæ and Aqua; <i>or</i> on Sugar.
Fel Bovinum Purificatum ..	gr. v.—xv.	pill	Extractum Hyoscyami. Coat with Keratin Solution.

Ferri Acetatis Liquor..	..	℥v.—xv.	mixture	Elixir Simplex 3ss.—i.
Ferri Arsenas ..	..	gr. $\frac{1}{10}$ — $\frac{1}{4}$	{ pill	Saccharum Lactis and Glucosum.
Ferri Carbonas Saccharatus..	..	gr. xx.—xxx.	{ powder	Saccharum ; or on bread and butter.
Ferri et Ammonii Citras ..	..	gr. v.—x.	{ pill	Dispensing Syrup. (Squire.)
Ferri et Ammonii Sulphas (iron- alum)	..	gr. v.—x.	{ mixture	Tinctura vel Syrupus Aurantii 3ss.—i.
Ferri et Quininæ Citras ..	..	gr. v.—x.	{ mixture	Glycerinum ; or Syrupus Aurantii 3ss.—i.
Ferri Perchloridi Tinctura vel Liqor	..	gr. v.—x.	{ mixture	Syrupus Aurantii 3ss.—i. ; or Tinctura Aurantii and Spiritus Glycerinum ; or Syrupus Aurantii 3ss.—i.
Ferri Pernitratris Liqor ..	..	℥v.—xv.	{ mixture	[Chloroformi aa 3ss.
Ferri Phosphas ..	..	gr. v.—x.	{ mixture	Glycerinum ; or Syrupus Aurantii 3ss.—i.
Ferri Sulphas ..	..	gr. i.—v.	{ pill	Acidum Sulphuricum Dilutum ℥i.—ii. and Syrupus Zingiberis 3ss.
Ferrum Tartaratum ..	..	gr. v.—x.	{ mixture	Pulvis Glycyrrhizæ and Glycerinum Tragacanthæ.
Filicis Liquidum (Extractum)	..	℥xlv.—3ss.	{ mixture	Syrupus 3ss.—i.
Gelsemii Tinctura ..	..	℥iv.—xv.	{ mixture	Mistura Amygdalæ 3i. ; or Pulvis Tragacanthæ Compositus gr. xx.—xl. and Syrupus Zingiberis 3i.
Granati Decoctum ..	..	3ss.—ii.	{ mixture	Tinctura Cardamomi Composita 3ss., Syrupus Aurantii 3ss. ; or Syrupus Limonis 3ss.—i.
Guaiaci Ammoniata Tinctura	..	3ss.—i.	{ mixture	Syrupus Zingiberis 3ss.—i. ; or Syrupus Aurantii 3ss.—i.
Guaiacol. ..	..	℥i.—v.	{ mixture	Mucilago Acaciæ 3ss.—i., Syrupus Aurantii 3i.
Guaranæ Tinctura ..	..	3i.—ii.	{ mixture	In capsules with Oleum Amygdalæ.
Hamamelidis Tinctura ..	..	3ss.—i.	{ mixture	Elixir Simplex 3ss.—i.
Hydrargyri Iodidum Rubrum	..	gr. $\frac{1}{2}$ — $\frac{1}{16}$	{ pill	Tinctura Cardamomi Composita 3ss., Syrupus Aurantii 3ss. ; or Elixir Simplex 3ss. and Syrupus 3ss.
Hydrargyri Perchloridum ..	..	gr. $\frac{1}{2}$ — $\frac{1}{16}$	{ mixture	Saccharum Lactis and Glucosum.
Hydrargyri Perchloridi Liqor	..	3ss.—i.	{ pill	Potassii Iodidum gr. ii.—iii. and Syrupus Zingiberis ℥xxx.
Hydrargyri Subchloridum ..	..	gr. $\frac{1}{4}$ —v.	{ mixture	Saccharum Lactis and Glucosum.
Hydrargyri Tannas ..	..	gr. $\frac{1}{2}$ —ii.	{ pill	Tinctura Cardamomi Composita 3ss. and Aqua Menthæ Piperitæ 3i. ; or Glycerinum 3ss. and Spiritus Chloroformi ℥iv.—x.
Hydrargyrum cum Creta	..	gr. i.—v.	{ pill	Glucosum and Saccharum Lactis ; or Pilula Colocyntidiz et Hyoscyami, &c.
Hydrastis Tinctura ..	..	3ss.—i.	{ powder	Saccharum Lactis.
	..		{ pill	Extractum Hyoscyami.
	..		{ powder	Glucosum.
	..		{ mixture	Pulvis Rheii ; or Saccharum Lactis, &c.
	..			Syrupus Aurantii 3ss.—i. ; or Elixir Simplex 3ss.—i. ; or Syrupus Pruni Virginianæ 3ss.—i.

TABLE II.—Continued.

Name of Drug.	Dose.	Form of Administration.	Correction of Taste.
Hydrogenii Peroxidi Liquor	℥ss.—i.	mixture	Glycerinum ℥ss. well diluted.
Hyoscyami Tinctura	℥ss.—i.	mixture	Syrupus Mori ℥i. and Aqua Menthæ Piperitæ ℥i.; <i>or</i> Syrupus Tolu and Syrupus Pruni Virginianæ aa ℥ss.
Ichthyol.. ..	gr. x.—xx.	{ pill mixture	Pulvis Althææ, Pulvis Glycyrrhizæ and Pulvis Tragacanthæ.
Iodoformum	gr. 4—iii.	{ pill mixture	Glycerinum ℥ss.—i. and Oleum Menthæ Piperitæ; <i>or</i> Essentia Amygdalæ.
Iodi Tinctura	℥lii.—v.	{ pill mixture	Glucosum; <i>or</i> Saccharum Lactis and Glycerinum Tragacanthæ.
Ipecacuanhæ Pulvis	gr. 4—ii.	{ pill mixture	Mucilago Acaciæ and Spiritus Camphoræ Fortior. (Rubini.)
Ipecacuanhæ Compositus (Pulvis) ..	gr. v.—xv.	{ powder pill	Aqua Cinnamomi ℥i.
Iridin	gr. i.—v.	{ pill mixture	Syrupus Glucosi.
Jaborandi Liquidum (Extractum) ..	℥lv.—xv.	{ pill mixture	Pulvis Cinnamomi and Saccharum.
Jalapæ Resina.. ..	gr. ii.—v.	{ pill mixture	Dispensing Syrup. (Squire.)
Jalapæ Tinctura	℥ss.—i.	{ mixture mixture	Syrupus Zingiberis ℥ss.—i.
Juniperi Spiritus	℥xx.—℥i.	{ mixture mixture	Aqua Carui ℥i.
Kamalæ Tinctura	℥ss.—ii.	{ mixture mixture	Syrupus Zingiberis ℥i. and Syrupus Acaciæ ℥ss.; <i>or</i> Syrupus Aurantii ℥i.
Kino Tinctura	℥ss.—i.	{ mixture mixture	Aqua Cinnamomi ℥i.
Kramerizæ Tinctura	℥ss.—i.	{ mixture mixture	Syrupus Aurantii ℥ss.; <i>or</i> Tinctura Camphoræ Compositus ℥ss. and Mistura Cretæ ℥i.
Lithii Bromidum	gr. v.—xv.	{ mixture mixture	Syrupus Aurantii ℥ss.—i.; <i>or</i> Spiritus Chloroformi ℥i. and Tinctura Cardamomi Composita ℥ss.
Lithii Citras	gr. v.—x.	{ mixture mixture	Syrupus Limonis ℥ss.—i.
Lithii Salicylas	gr. x.—xxx.	{ mixture mixture	Syrupus Aurantii ℥ss.—i. and Aqua Cinnamomi ℥i.
Lobelizæ Ætherea (Tinctura)	℥lv.—xv.	{ mixture mixture	Syrupus Limonis ℥ss.—i.; <i>or</i> Syrupus Aurantii ℥ss.—i. and Tinctura Cardamomi Composita ℥ss.
Lobelizæ Tinctura	℥lx.—xxx.	{ mixture pill	Syrupus Aurantii ℥ss.—i.
Lupulinum	gr. ii.—v.	{ pill mixture	Alcohol (90 p.c.); <i>or</i> Extractum Lupuli.
Magnesii Carbonatis (Liquor)	℥i.—ii.	{ mixture mixture	Syrupus Aurantii ℥ss and Aqua Carui ℥i.

Magnesi Sulphas	..	3ss.—iv.	mixture	Syrupus Zingiberis 3ss.—i. and Aqua Menthæ Piperitæ 3i.; or Aqua Carui 3i.
Manganesi Oxidum Præparatum	..	gr. iii.—x.	{ pill	Syrupus.
Menthol..	..	gr. ½—ii.	{ powder	Pulvis Saponis and Dispensing Syrup (Squire).
Methylacetanilidum	..	gr. ½—ii.	{ pill	Saccharum.
Morphinæ Acetas	..	gr. ¼—½	{ mixture	Glucosum.
Morphinæ Hydrochloridum..	..	gr. ¼—½	{ pill	Syrupus Aurantii Corticis 3i., Aqua Chloroformi 3i.
Morphinæ Tartras	..	gr. ¼—½	{ mixture	Sapo Durus and Syrupus Glucosi; or Saccharum Lactis and Glycerinum Tragacanthæ.
Morrhuæ Oleum	..	3i.—iv.	{ pill	Sapo Durus and Syrupus Glucosi; or Saccharum Lactis and Glycerinum Tragacanthæ.
Moschus..	..	gr. v.—x.	{ mixture	Sapo Durus and Syrupus Glucosi.
Naphthalinum	..	gr. ii.—v.	{ mixture	Syrupus Aurantii ʒxx.—3ss. disguises the taste of the Salts of Morphia in Solution.
Naphthol	..	gr. iii.—x.	{ powder	Tinctura Quillatæ and Oleum Cinnamomi ʒi.; or Oleum Menthæ Piperitæ ʒiii.; or Syrupus and Tinctura Aurantii 3i.
Nitroglycerinum (Liquor Trinitrini)	..	ʒ ½—ii.	{ pill	Acacia, Saccharum and Aqua Rosæ; or Mucilago Acaciæ and Syrupus Floris Aurantii 3i.
Nucis Vomica Tinctura	..	ʒv.—xv.	{ mixture	and Aqua Camphoræ 3i.
Opium	..	gr. ½—ii.	{ mixture	Pulvis Acaciæ and Pulvis Glycyrrhizæ.
Opii Tinctura	..	ʒv.—xv.	{ pill	Mucilago Acaciæ and Oleum Bergamottæ ʒi.—iii.
Opii Ammoniata (Tinctura)..	..	3ss.—i.	{ mixture	Saccharum and Oleum Bergamottæ.
Papain	..	gr. ii.—x.	{ powder	Glucosum.
Paraldehydum	..	3ss.—ii.	{ mixture	Syrupus Aurantii ʒx.—xx.
Pareiræ Liquidum (Extractum)	..	3ss.—ii.	{ mixture	Syrupus Aurantii 3i.
Pelletierinæ Niras	..	gr. v.—viii.	{ mixture	Tinctura Aurantii 3ss. and Syrupus 3ss; or Mistura Amygdalæ 3i.; or Tinctura Aurantii 3ss.—3i. and Aqua Cinnamomi 3i.
Pelletierinæ Sulphas	..	gr. v.—viii.	{ mixture	Syrupus Aurantii 3ss.—i.
Pepsinum	..	gr. v.—x.	{ pill	Syrupus Acaciæ 3iv.
Phenacetinum	..	gr. ii.—x.	{ powder	Syrupus Simplex 3ii.
	..		{ mixture	Glycerinum.
	..		{ powder	On bread and butter.
	..		{ mixture	Pulvis Tragacanthæ Compositus and Aqua Camphoræ 3i.
	..		{ powder	Tasteless.

TABLE II.—Continued.

Name of Drug.	Dose.	Form of Administration.	Correction of Taste.
Phenazonum	gr. v.—xx.	mixture	Syrupus Aurantii 3ss., Aqua Menthæ Piperitæ ʒi.; <i>or</i> Syrupus Zingiberis 3ss.—i.; <i>or</i> Syrupus Tolu ʒss.—i.
Phosphorus	gr. ʒss.—ʒi.	{ pill mixture	Oleum Theobromatis (Martindale): <i>or</i> Sevum.
Physostigmatis Extractum ..	gr. ʒi.—i.	pill	Glycerinum; <i>or</i> Oleum Amygdalæ.
Picrotoxinum	gr. ʒi.—i.	pill	Pulvis Zingiberis.
Pilocarpinæ Hydrochloridum ..	gr. ʒss.—ʒi.	mixture	Saccharum Lactis and Glycerinum Tragacanthæ.
Pix Liquida	ʒv.—xx.	pill	Aqua and Syrupus Aurantii.
Plumbi Acetas	gr. i.—v.	pill	Pulvis Glycyrrhizæ.
Podophylli Resina	gr. ʒi.—i.	pill	Pulvis Tragacanthæ Compositus and Dispensing Syrup.
Podophylli Ammoniata (Tinctura) ..	ʒx.—xxx.	mixture	(Squire.)
Potassæ Liquor	ʒx.—xxx.	mixture	Extractum Hyoscyami.
Potassii Acetas	gr. x.—ʒi.	mixture	Elixir Simplex ʒxx.—ʒi.
Potassii Bicarbonas	gr. v.—xxx.	mixture	Syrupus Aurantii ʒi., and Aqua Cinnamomi ʒi.; <i>or</i> Infusum Buchu ʒi.
Potassii Bromidum	gr. v.—xxx.	mixture	Syrupus ʒx.—xxx.; Aqua Camphoræ ʒi.; <i>or</i> Infusum Buchu ʒi.
Potassii Bichromas	gr. ʒss.—ʒi.	mixture	Syrupus Aurantii ʒx.—xxx.
Potassii Chloras	gr. v.—xv.	mixture	Tinctura Cardamomi Composita ʒss., and Syrupus Aurantii ʒss.; <i>or</i> Syrupus Pruni Virginianæ ʒi.
Potassii Citras	gr. x.—xl.	mixture	Unguentum Kaolini.
Potassii Iodidum	gr. v.—xx.	mixture	Syrupus ʒx.—xxx.
Potassii Nitras	gr. v.—xx.	mixture	Syrupus Limonis ʒss.—i.
Potassii Permanganas	gr. i.—iii.	pill	Syrupus Aurantii ʒss.—i., and Aqua Menthæ Piperitæ ʒi.; <i>or</i> Syrupus Tolu ʒi.; <i>or</i> Syrupus Pruni Virginianæ ʒi.
Potassii Sulphas	gr. x.—xl.	mixture	Syrupus Limonis ʒi.
Potassii Tartaras	ʒss.—iv.	mixture	Paraffinum.
Potassii Tartaras Acidus	gr. xx.—ʒi.	mixture	Syrupus Aurantii ʒss.
Quininæ Hydrochloridum	gr. i.—x.	mixture	Syrupus Aurantii ʒss.
Quininæ Sulphas	gr. i.—x.	{ pill mixture	Syrupus Aurantii ʒss.
Quininæ Ammoniata (Tinctura) ..	ʒss.—i.	mixture	Glycerinum Tragacanthæ; <i>or</i> Confectio Rosæ Murilago Acaciæ ʒi. and Syrupus Aurantii ʒi.

Resorcinum ..	gr. i.—v.	mixture	Glycerinum 3ss. and Aqua Menthæ Viridis ʒi.; or Syrupus Aurantii 3ss. and Aqua Caryophylli ʒi.
Rhei Pulvis ..	gr. iii.—x.	{ pill powder mixture	Dispensing Syrup. (Squire.) Pulvis Zingiberis. Sodii Bicarbonas gr. iii.—x., Aqua Menthæ Piperitæ ʒi.; or Oleum Menthæ Piperitæ ʒi. and Saccharum gr. xxx. Syrupus Zingiberis ʒxv.—xxx., Aqua Menthæ Piperitæ ʒi. Elixir Simplex ʒi. and Aqua Cinnamomi ʒi.
Rhei Composita (Tinctura) .. Rhois Aromaticum Liquidum (Extractum)	3ss.—i. ʒxx.—xxx.	mixture mixture	
Ricini Oleum ..	ʒi.—viii.	mixture	Mucilago, Syrupus Zingiberis ʒxx.—ʒi. and Aqua Cinnamomi ʒi.; or Mucilago, Syrupus Zingiberis 3ss. and Aqua Menthæ Piperitæ ʒi.; or in Milk. Glucosum.
Salicinum ..	gr. v.—xx.	{ pill mixture mixture	Syrupus Aurantii 3ss.—i. Mucilago Acaciæ ʒi. and Elixir Simplex 3ss.—i.; or Mistura Cretæ ʒi.
Salol ..	gr. v.—xv.	{ powder mixture	Saccharum Lactis gr. v.—xv.
Santali Oleum ..	ʒiv.—xxx.	{ mixture powder	Mucilago ʒi. and Tinctura Aurantii 3ss.—i. Pulvis Scammonii Compositus gr. ii.—iv.; or Pulvis Glycyrrhizæ Compositus 3ss.—i.
Santoninum ..	gr. ii.—v.	{ mixture mixture	Oleum Ricini.
Scillæ Tinctura	ʒv.—xv.	mixture	Syrupus Tolu 3ss.—i.
Scoparii Infusum	ʒi.—ii.	mixture	Syrupus 3ss. and Spiritus Chloroformi ʒv.—x.
Senegæ Infusum	3ss.—i.	mixture	Syrupus Aurantii 3ss.—i. and Spiritus Chloroformi ʒv.—x.; or Oxymel Scillæ 3ss.—i.; or Syrupus Tolu 3ss.—i.
Serpentariæ Infusum ..	3iv.—ʒi.	mixture	Spiritus Anisi ʒx.—xx. and Aqua Menthæ Piperitæ ʒi.
Soda Tartarata ..	3ii.—iv.	mixture	Syrupus Aurantii 3ss.—i.; or Syrupus Zingiberis 3ss.—i.
Sodii Arsenas ..	gr. ʒb.—ʒb.	pill	Saccharum Lactis and Glucosum.
Sodii Arsenatis Liquor	ʒii.—viii.	mixture	Syrupus ʒxx.; or Glycerinum ʒxx.; or Aqua Cinnamomi ʒi.
Sodii Benzoes ..	gr. v.—xxx.	mixture	Syrupus Tolu 3ss.—i.; or Syrupus Pruni Virginianæ 3ss.
Sodii Bicarbonas	gr. v.—xxx.	mixture	Syrupus Aurantii ʒx.—xxx. and Aqua Menthæ Piperitæ ʒi.
Sodii Bromidum	gr. v.—xxx.	mixture	Tinctura Cardamomi Composita ʒxv.—3ss. and Syrupus Aurantii 3ss.—i.
Sodii Chloridum	gr. x.—ʒi.	mixture	Syrupus 3ss.—i.
Sodii Hypophosphis	gr. iii.—x.	mixture	Syrupus Aurantii 3ss.—i.; or Spiritus Chloroformi ʒv.—xv.
Sodii Iodidum ..	gr. v.—xx.	mixture	Syrupus Aurantii 3ss.—i.; or Syrupus Tolu 3ss.—i.; or Syrupus Pruni Virginianæ 3ss.—i.
* Sodii Nitras ..	gr. i.—ii.	mixture	Syrupus 3ss.; or Syrupus Aurantii 3ss.—i.
Sodii Phosphas	3ss.—ii.	mixture	Syrupus or Milk.

TABLE II.—Continued.

Name of Drug.	Dose.	Form of Adminis- tration.	Correction of Taste.
Sodii Salicylas	gr. x.—xxx.	mixture	Syrupus Aurantii ʒss.—i. and Aqua Cinnamomi ʒi.; or Aqua Menthæ Piperitæ ʒi.; or Glycerinum ʒi. and Aqua Cinnamomi ʒi.; or Tinctura Lavandulæ Composita ʒss. and Glycerinum ʒss.
Sodii Sulphas	ʒss.—ii.	mixture	Tinctura Cardamomi Composita ʒss.—i. and Spiritus Chloroformi ℥v.—x.
Sodii Sulphis	gr. v.—xx.	mixture	Spiritus Chloroformi ℥v.—x. and Infusum Calumbæ ʒi.
Sodii Sulphocarbolas ..	gr. iii.—xv.	mixture	Syrupus Aurantii ʒss., Tinctura Cardamomi Compositus ʒss.; or Syrupus Zingiberis ʒss.—i.
Spiritus Ætheris Nitrosi	℥xx.—ʒi	mixture	Syrupus ʒss.—i.
Stramonii Tinctura ..	℥v.—xv.	mixture	Syrupus Aurantii ʒss. and Aqua Camphoræ ʒi.
Strophanthi Tinctura..	℥v.—xv.	{ mixture pill	Syrupus Aurantii ʒss.
Strychnina	gr. $\frac{1}{10}$ — $\frac{1}{2}$	mixture	Saccharum Lactis.
Strychninae Hydrochloridi (Liquor)	℥ii.—viii.	mixture	Saccharum Lactis and Glucosum.
Sulphonat	gr. x.—xxx.	mixture	Syrupus Aurantii ʒss.
Sulphur Præcipitatum	gr. xx.—ʒi.	{ mixture powder	Pulvis Tragacanthæ Compositus gr. xv. and Syrupus ʒss.; or Mistura Amygdalæ ʒi.
Taraxaci Succus	ʒi.—ii.	mixture	Theriaca or Milk.
Terebenum	℥v.—xv.	mixture	Pulvis Cinnamomi; or Pulvis Cinnamomi Compositus.
Terebinthinæ Oleum ..	℥ii.—x.	mixture	Spiritus Chloroformi ℥v.—xv. and Tinctura Calumbæ ʒss. On Sugar; or Mucilago Tragacanthæ, Glycerinum ʒi. and Aqua Cinnamomi ʒi.; or Spiritus Chloroformi ℥x. and Syrupus Acaciæ ʒiv.
Thymol	gr. $\frac{1}{2}$ —ii.	mixture	Mistura Amygdalæ ʒi.; or Mucilago Acaciæ ʒi. and Syrupus Zingiberis ʒss.—i.; or Syrupus Aromaticus ʒss.—i.; or Oleum Amygdalæ ℥x., Mucilago Acaciæ ʒi. and Aqua Laurocerasi ʒi.
Urethane	gr. xv.—xxx.	mixture	Glycerinum ʒss. and Spiritus Chloroformi ℥x. and Infusum Gentianæ Compositum ʒi.
Uvæ Ursi Infusum ..	ʒss.—i.	mixture	Glycerinum ʒss. and Aqua Menthæ Piperitæ ʒi. Syrupus Acaciæ ʒss.—i.; or Syrupus Aurantii ʒi. and Spiritus Chloroformi ℥v.—xv.

the manufacture of pills, and of the drugs with which they are most advantageously combined:—

(1) *Alcohol*.—A little spirit added to most resinous extracts, gum resins, camphor, &c., forms a good workable mass.

Rectified spirit and glycerine (1 to 2) form an excellent liquid excipient for the large majority of vegetable powders.

Rectified spirit and powdered soap make a good mass with camphor, thymol, &c.

(2) *Bread Crumb*.—Crumb of bread makes a good excipient for balsam of Peru, calomel, carbolic acid, croton oil, creosote, &c. It should not be used with nitrate of silver. This excipient is now seldom used.

(3) *Calcined magnesia and a little powdered soap* form an excellent mass with essential oils, such as oil of cloves, &c., and also with croton oil. Calcined magnesia alone or with beeswax is also a suitable excipient for copaiba balsam. With white wax calcined magnesia makes a good mass with oil of turpentine.

(4) *Calcium Phosphate*.—Calcium phosphate is an admirable excipient for fatty substances and essential oils. With hard soap it works into a good mass with creosote.

(5) *Confection of Roses*.—Confection of roses is useful in those cases in which a sticky excipient is required. Thus it makes a suitable excipient for heavy powders, and for powdered crystalline salts, provided these bodies are not incompatible with the tannin which is contained in confection of roses. Grey powder can be worked into a good mass with confection of roses.

(6) *Decoction of Aloes*.—Decoction of aloes makes

an excellent excipient for pills containing aloes and gum resins.

(7) *Glycerine and Rectified Spirit, &c.*—Glycerine and rectified spirit, glycerine and treacle, and glycerine and confection of roses form good general excipients.

(8) *Glycerine of Tragacanth.*—Glycerine of tragacanth has a very wide range of usefulness, and among the drugs for which it forms an excellent excipient may be mentioned antipyrine, quinine, cerium oxalate, iridin, euonymin.

(9) *Glucose.*—Glucose alone, or with an equal weight of syrup, is preferred by Squire ("Companion to the British Pharmacopœia," p. 484) in the majority of cases in which glycerine of tragacanth would be used.

(10) *Honey.*—Honey alone or with tragacanth is a useful excipient for dry powders. With soap it forms a good mass with camphor.

(11) *Kaolin.*—Kaolin ointment, or a mixture of hard and soft paraffins [massa paraffini (Squire)] is the best excipient for making a pill-mass with permanganate of potash, nitrate of silver, and the salts of gold.

(12) *Liquorice Powder.*—Liquorice powder makes an excellent excipient when moisture is to be absorbed in the making of a pill-mass. It forms an unexpectedly good excipient for carbolic acid.

Liquorice powder and compound tragacanth powder may be used when more plasticity is required.

Liquorice powder (2 grains) and powdered curd soap ($\frac{1}{2}$ grain) are recommended by Squire for essential oils (one minim).

(13) *Lycopodium.*—Lycopodium works into a good mass with tar.

(14) *Manna*.—Manna is a useful excipient for nitrate of silver, reduced iron, and with compound tragacanth powder for calomel.

(15) *Powders*.—Powders, such as starch, liquorice, althæa, sugar of milk, are used to increase the adhesiveness and consistency of soft extracts and to give greater bulk to very small pills.

(16) *Soap*.—Soap is a good excipient for opium, and in the powdered form for creosote. Soap and powdered liquorice (see above) work into a good mass with essential oils.

(17) *Suet*.—Suet makes a good excipient for camphor salicylate, and for phosphorus.

(18) *Dispensing Syrup (Squire)*.—Squire recommends the use of dispensing syrup (equal volumes of alcohol 90 per cent., glycerine, syrup and mucilage) as a general excipient for powders and adhesive substances requiring moisture to make a good pill-mass.

(19) *Treacle*.—Treacle alone, or with glycerine or tragacanth, is a good general excipient for powders.

(20) *Vegetable Extracts*.—Vegetable extracts also make a good workable mass with many powders.

Certain vegetable extracts can be made up into pills without the help of an excipient.

Pills may be finished by shaking them with a dry powder, such as lycopodium, starch, carbonate of magnesium, French chalk, flour, or liquorice powder.

More commonly perhaps pills are finished with a coating of gold or silver leaf, or of sugar, albumen, French chalk, gelatine, ether-alcoholic solution of tolu or sandarach (alcohol 6, ether 2, sandarach 3), or keratin.

Gold or silver leaf should not be used to coat pills which contain mercury, sulphur, or free iodine. Pills containing ingredients very soluble in alcohol should not be varnished, since the varnish may dissolve portions of the pill.

Gelatine constitutes perhaps the best general coating for pills.

POWDERS (PULVERES).

Powders may be composed of one or more ingredients. They are a suitable form for the administration of drugs which cannot be conveniently given in a fluid vehicle or in a pill-mass. When drugs of very small dosage are prescribed in this form they should be mixed with an inert powder, such as sugar of milk, starch, sugar, &c., which, in addition to providing the requisite bulk and insuring the proper distribution of the active ingredients, may also assist in their pulverisation and correction of taste. Thus sugar added to myrrh and spirit to camphor assist in the pulverisation of these substances.

If it is found desirable to give volatile or deliquescent salts in the form of a powder they should be wrapped in paper and enclosed in tin-foil or waxed paper, but these substances are preferably administered in other ways.

Powders composed of nauseous medicines are most advantageously administered in cachets made of wafer paper, since in this way all unpleasantness is avoided.

Gelatine capsules constitute another excellent, resource for the exhibition of nauseous remedies, either as fluid or powder, in a tasteless manner.

TABLETS (TABELLÆ.)

In the compressed form of tablet medicinal substances, either alone or in combination, are subjected to pressure by a special process, so that they become moulded into hard, compact, disc or lens-shaped bodies of a suitable size for swallowing. The "elegance" of these preparations and the ease with which they are prescribed and administered account, no doubt, for the large measure of popularity which they enjoy, but unless great care be exercised this method of medication is open to grave abuse, and conduces in many instances to the habit of self-drugging which is so prevalent at the present time.

In the medicated form of tablet, medicinal substances, as for instance nitro-glycerine, erythrol tetranitrate, morphine, cocaine, &c., are incorporated with chocolate, or cacao butter, to which powdered gum and a flavouring agent are added. The mixture is then worked up with water into a stiff mass, which can be rolled out, pressed and cut into tablets of the required size and strength. The tabellæ trinitrini constitute the only official example of this method of exhibiting drugs.

CONFECTIONS (CONFECTIONES).

Confections, conserves, or electuaries are soft pasty preparations in which drugs in the form of a powder are blended with sugar, syrup or honey. They constitute a suitable method of administering drugs which would be unpleasant to take as powders and too bulky to give as pills, but as a matter of fact this form of medication is not very greatly used at the present time.

There are but three official confections which contain active ingredients, viz. :—

- (1) Confectio piperis.
- (2) Confectio sulphuris.
- (3) Confectio sennæ.

The confectio rosæ gallicæ is used only as a vehicle for other drugs.

THE FORMULÆ EMPLOYED IN THE APPLICATION OF REMEDIES TO THE MOUTH AND FAUCES.

Gargles (Gargarismata).—Gargles are liquid preparations of medicinal substances for application to the mouth, palate and fauces. To all intents and purposes they may be regarded as mixtures for local use.

Glycerine is frequently added to gargles not only on account of its therapeutical action, but also because it acts as an admirable solvent or vehicle for many drugs. Moreover glycerine increases the adhesiveness of the application of which it is an ingredient. It is for this reason that honey or syrup sometimes finds a place in gargles.

About half an ounce of one of these applications should be used for each act of gargling, which ought to be repeated three or four times on each occasion.

Sprays (Nebulæ).—Sprays are liquid medicinal preparations which are applied in a state of fine division to the mucous membrane of the throat, nose and upper air passages. They are practically atomised gargles. Water, glycerine, oil, alcohol, ether, &c., may be used as the vehicle for the active ingredients. When water is employed the distilled form should be ordered.

TABLE III.

DRUGS SUITABLE FOR USE AS GARGLES, SPRAYS AND PIGMENTS.

Name of Drug.	Gargle.	Spray.	Pigment.	Vehicle.
Acidum Aceticum ...	m xv.	...	...	Glycerine and water.
Acidum Benzoicum ...	...	...	gr. iv.—xxx.	Glycerine.
Acidum Boricum ...	gr. v.—xv.	gr. v.—xv.	...	Water, or glycerine and water.
Acidum Carbollicum...	...	...	gr. xii.	Glycerine ʒi.
Acidum Chromicum...	gr. ii.—iii.	gr. iii.	...	Water.
Acidum Hydrochloricum di-	...	...	gr. xxx.	Glycerine ʒi.
lutum	gr. i.	...	gr. x.	Water.
Acidum Lacticum ...	...	...	...	Glycerine and water.
Acidum Salicylicum...	gr. i.—iii.	m xxx.	...	Distilled water.
Acidum Sulphurosum	...	...	50—100 per cent.	Water or glycerine.
Acidum Tannicum ...	gr. x.—xv.	gr. v.—x.	...	Water and glycerine of borax.
	...	25—50 per cent.	gr. xv.	Glycerine of borax
	...	...	...	Water.
	...	...	50 per cent.	Glycerine.
	gr. x.—xv.	gr. xxx.	...	Rose water.
	...	...	gr. xii.	Glycerine.

Alumen	...	...	gr. x.—xx.	...	gr. x.—xx.	...	...	Water and glycerine, or acid infusion of roses.
Aluminii Chloridi solutio	...	...	...	...	...	gr. x.	...	Glycerine.
Ammonii Chloridum	...	...	℥xii.	...	...	℥xv.	...	Water.
Argenti Nitras	...	...	gr. v.—x.	...	gr. v.—x.	...	...	Water.
Borax	...	...	...	...	gr. i.—x.	gr. x.—lx.	...	Distilled water.
Calcis liquor...	...	...	gr. xx.	...	...	...	...	Glycerine and water.
Calcis Chlorinatæ liquor	...	...	...	...	...	gr. x.	...	Glycerine.
Caryophylli Oleum	...	...	50—100 per cent.	50—100 per cent.	50—100 per cent.	—	—	—
Chloral	...	...	100 per cent.	...	...	—	—	—
Cocaina	...	...	...	...	℥v.	...	...	Parolein.
Cupri Sulphas	...	...	...	...	...	50 per cent.	...	Camphor 50 per cent.
Eucalypti Oleum	...	...	...	10 per cent.	...	10—20 per cent.	...	Water.
Ferro-Alumen	...	...	...	gr. i.—xv.	gr. i.—xv.	gr. xv.	...	Water.
Ferri Perchloridum	...	...	gr. viii.	...	℥v.	...	...	White adepsine oil 3i.
Ferri Sulphas	...	...	gr. v.—x.	...	gr. iii.—viii.	gr. lx.	...	Water.
Hydrargyri Perchloridum	...	...	...	...	gr. iii.	...	...	Water and glycerine.
Hydrogenii peroxidum	...	...	...	...	...	gr. x—xx.	...	Glycerine.
Iodi tinctura	...	...	gr. ½	...	gr. ii.	gr. lx.	...	Distilled water.
Iodum	...	...	...	...	...	...	...	Glycerine and water.
Ipecacuanhæ Vinum	...	...	℥viii.—xx.	10 volumes	10 volumes	gr. ¼ strength.	...	Glycerine 3i.
	—
	...	...	...	...	...	gr. vi.—xx.	...	Water.
	...	...	...	100 per cent.	100 per cent.	—	...	Glycerine 3i.

TABLE III.—Continued.

Name of Drug.	Gargle.	Spray.	Pigment.	Vehicle.
Krameriaë tinctura ...	ʒi.—ʒii.	50—100 percent.	...	Water.
Menthol ...	...	ʒss.—ʒi.	ʒi.—ʒii.	Parolein ʒi.
Myrrhæ tinctura ...	mxx.	...	...	Water.
Plumbi Subacetatis liquor fortis	mv.	...	...	Rose water.
Potassii Chloras ...	gr. x.—xx.	gr. x.—xx.	...	Water.
Potassii Nitras ...	gr. xv.	...	...	Water.
Potassii Permanganas ...	gr. ʒ—iii.	gr. v.	...	Distilled water.
Quininæ Sulphas ...	...	gr. ii.	...	Acid water.
Resorcinum ...	gr. xx.	gr. ii.—viii.	...	Water and glycerine.
Sodæ Chlorinatæ liquor	mxx.—xl.	...	...	Water.
Sodii Chloridum ...	gr. x.—xxx.	gr. v.—ʒii.	...	Water.
Sodii Hyposulphis ...	gr. x.—xl.	...	...	Water.
Sodii Sulphocarbolas ...	gr. iii.—vi.	...	...	Water.
Thymol ...	gr. ʒ	...	...	Water and glycerine.
Zinci Chloridum ...	...	gr. i.—ii.	...	Water and glycerine.
Zinci Sulphas ...	...	gr. ii.	gr. xv.—xxx.	Water.
Zinci Sulphocarbolas	gr. ʒ—iii.	gr. v.—x.	gr. xxx.—lx.	Water.
	...	gr. v.	...	Water.

Pigments (Pigmenta).—Pigments are liquid medicaments which are applied by means of a swab or brush. The active ingredients may be carried in water, alcohol, glycerine, oil, &c.

The following substances, which may be added in the amounts given to one ounce of water, glycerine, &c., are suitable for use as gargles, sprays and pigments. (See Table III.)

Lozenges (Trochisci).—Lozenges made according to the official formulæ are medicated tablets of hard consistence which should be placed in the mouth and allowed to dissolve slowly. They consist of refined sugar, water and gum acacia in the form of powder and mucilage made into a mass with or without a basis of fruit paste, rose water, or tincture of the balsam of tolu. The active ingredients are then added and thoroughly incorporated with the mass, which is divided into the required number of lozenges, and these are subsequently dried in a hot-air chamber at a moderate heat.

It is frequently desirable to administer lozenges of a softer consistency than those prepared according to the official formulæ, and this can be effected by increasing the amount of fruit paste, which may be added until it represents from 50 to 80 per cent. of the total ingredients.

The following is a list of pharmacopœial lozenges—

Trochiscus Acidi Benzoici, $\frac{1}{2}$ gr. in each lozenge.

Trochiscus Acidi Carbolici, 1 gr. in each lozenge.

Trochiscus Acidi Tannici, $\frac{1}{2}$ gr. in each lozenge.

Trochiscus Bismuthi Compositus, 2 gr. in each lozenge.

Trochiscus Catechu, 1 gr. in each lozenge.

Trochiscus Eucalypti Gummi, 1 gr. in each lozenge.

Trochiscus Ferri Redacti, 1 gr. in each lozenge.

Trochiscus Guaiaci Resinæ, 3 gr. in each lozenge.

Trochiscus Ipecacuanhæ, $\frac{1}{4}$ gr. in each lozenge.

Trochiscus Kramerizæ, 1 gr. in each lozenge.

Trochiscus Kramerizæ et Cocainæ, 1 gr. and $\frac{1}{10}$ gr. in each lozenge.

Trochiscus Morphinæ, $\frac{1}{8}$ gr. in each lozenge.

Trochiscus Morphinæ et Ipecacuanhæ, $\frac{1}{32}$ and $\frac{1}{12}$ gr. in each lozenge.

Trochiscus Potassii Chloratis, 3 gr. in each lozenge.

Trochiscus Santonini, 1 gr. in each lozenge.

Trochiscus Sodii Bicarbonatis, 3 gr. in each lozenge.

Trochiscus Sulphuris, 5 gr. in each lozenge.

Pastils (Pastilli).—These constitute an elegant and agreeable form of lozenge suitable for the treatment of inflammatory conditions of the tongue, palate and fauces. They consist of a basis of glyco-gelatine coloured by carmine and flavoured with orange-flower water. The medicaments are added in the desired proportions to the melted glyco-gelatine [refined gelatine one ounce, glycerine (by weight) two and a half ounces, ammoniacal solution of carmine a sufficient quantity, orange-flower water, two and a half ounces (Throat Hospital Pharmacopœia)], which is then poured into an oiled tray to cool, and after solidification it is cut up into the required number of pastils.

Drugs such as tannin, kino, &c., which are incompatible with gelatine, cannot be prescribed with this basis.

THE FORMULÆ USED IN THE ADMINISTRATION OF DRUGS BY THE RECTUM.

Enemata.—Enemata are liquid preparations for injection *per rectum*. Rectal injections are employed for a variety of purposes, to wit: (1) the

evacuation of the bowels; (2) the suppression of diarrhœa; (3) the medication of the lower bowel; (4) the removal of worms; (5) the introduction of nourishment, drugs, &c.

Purgative enemata consist of water, soap and water, gruel, or mucilage of starch, &c., with or without the addition of olive oil, castor oil or turpentine. Mucilage of starch with sulphate of magnesium or aloes also forms an efficient purgative enema.

Evacuant enemata are preferably administered warm or tepid, and about one pint of fluid should be used for each injection.

One to two drachms of glycerine injected into the rectum constitute a safe and reliable means of emptying this portion of the bowel.

Enemata of starch, boiled or raw, of the consistence of thin paste, at a temperature of 100° F. are used to control diarrhœa. The injection, which should not exceed one or two ounces, may be medicated with—

Tincture of Opium	...	...	...	℥ xx.—xxx.
Sulphate of Zinc	...	...	...	gr. i.—iii.
Alum	...	...	...	gr. i.—iii.
Acetate of Lead	...	...	...	gr. ii.—iv.
Sulphate of Copper	...	...	...	gr. i., &c., &c.

according to the effect that is desired.

Two ounces of mucilage of starch and half a drachm of tincture of opium make a useful injection in the treatment of painful affections of the bladder or rectum.

An enema of warm water alone exercises a sedative effect on the bowels and neighbouring organs. The addition of turpentine or assafœtida imparts a stimulant and carminative action, which

is made use of in the treatment of flatulent distension of the bowels.

Nitrate of silver (five grains or more to the pint of distilled water) tannic acid (gr. i.—iv. to the ounce), salicylate of soda (gr. v.—xv. to the ounce), resorcin (gr. i.—iv. to the ounce), are also exhibited in the form of an enema. A teaspoonful of salt added to half a pint of water, or half a pint of lime water or infusion of quassia, makes an excellent anthelmintic enema for an adult. Smaller quantities of these injections should be used for children.

The tincture of the perchloride of iron (one drachm to the half pint of water), turpentine, aloes or assafoetida may also be employed for the same purpose.

In those conditions in which enemata are used as a means of introducing drugs into the general system the amount of fluid injected should not be more than is necessary to convey the remedy. In order to produce like effects it is necessary to administer larger doses of drugs by the rectum than by the stomach.

Nutrient enemata will not be considered since they do not come within the scope of this work.

Suppositories (Suppositoria).—Suppositories are small cone-shaped masses made of glyco-gelatine, curd soap and glycerine of starch, or some solid fatty substance such as oil of theobroma, stearin, soap and starch, spermaceti, &c., with which are incorporated various active ingredients. Suppositories are employed to introduce remedies into the rectum for local or general use. For practical purposes they may be regarded as solid enemata.

The following suppositories are official:—

Suppositoria Acidi Carbolici, each contains 1 gr.
 Suppositoria Acidi Tannici, each contains 3 gr.
 Suppositoria Belladonnæ, each contains 1½ gr.
 Suppositoria Glycerini, each contains 70 per cent.
 Suppositoria Iodoformi, each contains 3 gr.
 Suppositoria Morphinæ, each contains ¼ gr.
 Suppositoria Plumbi Composita, Lead acetate 3 gr., Powdered Opium 1 gr.

THE FORMULÆ EMPLOYED IN THE ADMINISTRATION OF DRUGS BY THE SKIN.

OINTMENTS (UNGUENTA).

Ointments are semi-solid applications composed of a fatty or greasy basis, which after medication can be smeared over or rubbed into the skin. The bases most commonly employed are lanolin, vaseline, the oxygenated hydro-carbons, soft paraffin, a mixture of hard and soft paraffins, suet, lard, and combinations of wax, spermaceti and oil. These substances alone or in combination are mixed with various medicinal agents and are then applied to the skin by inunction. The official Unguentum Cetacei or the Unguentum Zinci or the Unguentum Aquæ Rosæ forms an excellent vehicle for active ingredients.

Ointments are usually made of the consistency of good butter, but this character can be modified according to the requirements of the case. It is frequently desirable to give a cream-like consistency to ointments, as for instance may be effected by a combination of drugs such as the following :

R	Lanolini	...	...	...	℥iiss.
	Adipis Benzoatis	...	...	...	℥v.
	Aquæ Rosæ	...	...	...	℥viiiiss. (Unna)
Fiat unguentum.					

Or,				
R	Lanolini...	...	...	℥ii.
	Zinci Oxidi	...	...	℥vi.
	Olei Olivæ	...	...	℥i.
	Aquæ Calcis	...	...	℥i. (Morris).
Fiat unguentum.				

These creams make useful excipients for the administration of other drugs, such as carbolic, boracic or salicylic acid (gr. v.—x.) or mercury in the form of calomel or ammoniated mercury (gr. v.—x.).

Pastes, which are ointments of the consistence of dough, may be employed when the continuous application of remedies to the skin is required. Lassar's paste is an example of this mode of administering drugs, and it can be used as a vehicle for other medicaments. The formula is as follows:—

R	Acidi Salicylici...	...	...	gr. x.
	Vasellini Optimi	...	...	℥ss.
	Zinci Oxidi	...	...	℥ii.
	Pulveris Amyli	...	...	℥ii.
Fiat pasta.				

Pastes (Pasta) are also prepared with kaolin, gum, starch, detrin, glycerine, glycerine and gelatine and other substances.

Salve-sticks and salve-pencils are prepared with a solid basis of cocoa butter or of wax, gum and starch, which when medicated form a useful vehicle for the application of drugs to diseased surfaces.

The oxygenated hydrocarbons in the form of valsol, vasogen, &c., constitute an extremely valuable means of introducing remedies into the general system through the skin, and also of applying medicaments to diseased cutaneous areas.

PLASTERS (EMPLASTRA).

Plasters are adhesive substances composed of combinations of soap, resin, wax, lead, paraffin, &c., with or without other active ingredients, which are spread on linen, cloth, leather and other materials and applied to the skin for the production either of a local or general effect.

Salve muslins and plaster mulls, introduced by Unna, are specially devised plasters intended for the continuous application of remedial agents to the skin.

PAPERS (CHARTÆ).

Chartæ are papers soaked or coated with the drugs they are designed to carry.

POWDERS (PULVERES).

Powders are substances either simple or compound, in a state of very fine division, which are mechanically dusted over the surface of the body for the purpose of protecting the skin or of exerting an astringent or anti-pruritic or antiseptic effect upon it. They are composed of magnesia, starch, talc, lycopodium, calamine, zinc oxide, bismuth, rice, kaolin, camphor, tannin, the oleates, &c.

Medicated starch or chalk powders are obtained by mixing these substances with solutions of drugs in alcohol, chloroform, ether, &c. The menstruum is allowed to evaporate and a fine powder is left behind.

LOTIONS (LOTIONES).

Lotions are fluid preparations, holding drugs in solution or in suspension, which are applied on linen, lint, &c., or by washing.

Collyria are lotions for the eye, and usually consist of solutions of boracic acid, or of astringent salts such as the sulphate of zinc, copper or iron, alum, nitrate of silver, &c.

Collunaria are lotions or douches for the nose. They commonly contain drugs which operate as astringents, antiseptics, disinfectants or detergents, &c.

LINIMENTS (LINIMENTA).

Liniments are fluid preparations of drugs for external application, which are administered by friction with the hand, or by painting on the skin with a brush, &c. They may also be exhibited on piline, lint, &c., which is then applied to the surface of the body.

Liniments are compounds of oil, soap, camphor, or glycerine, and other active ingredients.

PIGMENTS (PIGMENTA).

Pigments are solutions of active medicaments in spirit, glycerine, &c., for painting on the skin.

INJECTIONS (INJECTIONES).

Injections are liquid preparations of medicinal substances which are introduced into the urethra, vagina, &c., by means of a syringe, or by means of a douche or syphon apparatus.

The following drugs are suitable for urethral or vaginal injection :—

TABLE SHOWING THE DRUGS WHICH ARE SUITABLE FOR URETHRAL AND VAGINAL INJECTION, AND THE STRENGTHS IN WHICH THEY MAY BE USED.

Name of Drug.	Injectio pro Urethra.	Injectio pro Vagina.
Acidum Boricum ...	gr. v.—x. to 1 oz.	ʒii.—ʒiv. to 20 oz.
Acidum Carbolicum	gr. ii.—vi. to 1 oz.	ʒss.—ʒi. to 20 oz.
Acidum Tannicum	gr. v. to 1 oz. ...	ʒss. to 20 oz.
Alumen	gr. i.—iii. to 1 oz. (distilled water)	ʒi.—ʒiv. to 20 oz.
Argenti Nitras ...	gr. $\frac{1}{4}$ to 1 oz. ...	gr. v.—x. to 20 oz.
Borax	gr. v.—xv. to 1 oz.	ʒii.—ʒiv. to 20 oz.
Calcis Liquor ...	Undiluted ...	Undiluted.
Chloral Hydras ...	gr. ii. to 1 oz. ...	gr. xx. to 20 oz.
Creolin	ʒii. to 1 oz. ...	ʒxv.—xxx. to 20 oz.
Cupri Sulphas ...	gr. i.—iii. to 1 oz.	gr. x.—xx. to 20 oz.
Ferri Perchloridi Tinctura	ʒiv.—x. to 1 oz....	ʒss.—ʒii. to 20 oz.
Ferro-Alumen ...	gr. ii.—iv. to 1 oz.	ʒss.—ʒi. to 20 oz.
Hydrargyri Per- chloridum	gr. $\frac{1}{16}$ — $\frac{1}{2}$ to 1 oz....	gr. ii.—iii. to 20 oz.
Iodi Tinctura ...	ʒv. to 1 oz. ...	ʒxv.—xxx. to 20 oz.
Iodoform	gr. x. to 1 oz. (oil).	—
Plumbi Acetas ...	gr. i.—x. to 1 oz.	gr. xv.—xxx. to 20 oz.
Potassii Bicarbonas	... ..	ʒi. to 20 oz.
Potassii Permanganas	gr. $\frac{1}{4}$ to 1 oz. ...	gr. i.—v. to 20 oz.
Sodii Bicarbonas ...	... ..	ʒi. to 20 oz.
Thallinæ Sulphas...	gr. ii.—v. to 1 oz.	—
Zinci Acetas ...	gr. ii.—iii. to 1 oz.	gr. x.—xxx. to 20 oz.
Zinci Chloridum ...	gr. i.—iii. to 1 oz.	gr. v.—x. to 20 oz.
Zinci Permanganas	gr. $\frac{1}{4}$ —ii. to 1 oz....	gr. ii.—v. to 20 oz.
Zinci Sulphas ...	gr. i.—iii. to 1 oz.	ʒss.—ʒii. to 20 oz.
Zinci Sulphocarbolas	gr. i.—ii. to 1 oz.	ʒss.—ʒii. to 20 oz.

POULTICES (CATAPLASMATA).

Poultices are a popular means of applying warmth and moisture to the skin. They are usually prepared with a basis of linseed-meal,

oatmeal, bread, bran, starch, yeast, potatoes, &c., which may be medicated with laudanum, belladonna, charcoal, henbane, chloride of lime or soda, and so forth.

Poultices have to a large extent been supplanted by fomentations, which are made of medicated lint or several thicknesses of flannel wrung out of boiling water and applied to the skin under a covering of macintosh, or oil silk, cotton wool, and a bandage.

FUMIGATIONS (FUMIGATIONES).

Fumigation consists in the exhibition of drugs, in the form of gas or vapour, which are used chiefly for disinfecting and deodorising purposes, but occasionally for their topical effect on the skin.

THE FORMULÆ EMPLOYED IN THE ADMINISTRATION OF DRUGS BY HYPODERMIC INJECTION.

*Hypodermic Injections (Injectiones Hypodermicæ).—*Hypodermic injections are solutions of active medicinal substances which are injected into the subcutaneous tissues by means of the hypodermic needle and syringe. Any drug which, when dissolved or suspended in water, alcohol, &c., can pass through the bore of the hypodermic needle, may be employed provided it is sterile and not too irritating to the tissues. The dose of drugs for hypodermic medication is half the quantity usually ordered by the mouth.

The following are the official hypodermic injections:—

Injectio Apomorphinæ Hypodermicæ, 1 gr. in 110 minims.

Injectio Cocainæ Hypodermicæ, 10 grains in 110 minims.

Injectio Ergotæ Hypodermicæ, about 33 grains in 110 minims.

Injectio Morphinæ Hypodermicæ, 5 grains in 110 minims.

The following list comprises the principal drugs suitable for hypodermic injection:—

Æther, m. x. —xxx.

Apomorphine, gr. $\frac{1}{20}$ — $\frac{1}{10}$.

Atropine Sulphate, gr. $\frac{1}{120}$ — $\frac{1}{60}$.

Caffeine, gr. $\frac{1}{4}$ —I.

Cocaine, gr. $\frac{1}{10}$ — $\frac{1}{2}$.

Conina, gr. $\frac{1}{120}$ — $\frac{1}{40}$.

Digitalin, gr. $\frac{1}{120}$ — $\frac{1}{75}$.

Ergotine, gr. $\frac{1}{3}$ — $\frac{1}{2}$.

Hyoscine, gr. $\frac{1}{120}$ — $\frac{1}{75}$.

Iodine, gr. $\frac{1}{12}$ — $\frac{1}{3}$.

Mercury Perchloride, gr. $\frac{1}{60}$ — $\frac{1}{20}$.

Morphine Sulphate, gr. $\frac{1}{10}$ —I.

Pilocarpine Nitrate, gr. $\frac{1}{10}$ — $\frac{1}{2}$.

Quinine Sulphate, gr. $\frac{1}{2}$ —iii.

Sparteine, gr. $\frac{1}{4}$ — $\frac{1}{2}$.

Strophanthin, gr. $\frac{1}{500}$ — $\frac{1}{250}$.

Strychnine Sulphate, gr. $\frac{1}{100}$ — $\frac{1}{30}$.

Stypticine, gr. $\frac{1}{4}$ — $\frac{1}{3}$.

THE FORMULÆ USED IN THE ADMINISTRATION OF DRUGS BY THE ENDERMIC METHOD.

This mode of employing drugs, which consists in sprinkling them upon a blistered surface, hardly requires consideration, inasmuch as it has been entirely superseded by the hypodermic method of medication.

THE FORMULÆ EMPLOYED IN THE ADMINISTRATION OF DRUGS BY THE RESPIRATORY TRACT.

INHALATIONS (INHALATIONES).

Drugs may be applied to the respiratory tract in the form of gas or vapour, spray, or smoke, all of which are comprised in the term inhalation.

Inhalations are usually employed with the object of influencing the respiratory apparatus only, but they may be used for general purposes, notably in the form of the anæsthetics chloroform, ether and nitrous oxide gas, and also of oxygen, amyl nitrite, and the like.

So far as the medication of the respiratory tract is concerned, it is customary to distinguish three kinds of inhalation, viz. :—

(1) Vapores, *i.e.*, medicated steam or air inhalations.

(2) Nebulæ or spray inhalations.

(3) Fumigationes or smoke inhalations.

Vapores.—The inhalation of vapourised drugs may be accomplished through the medium of moist or dry air. Moist inhalations are prepared with medicated steam or hot water, through which the respired air becomes charged with the volatilised drug and is also rendered warm and humid. The water, which should be thoroughly mixed with the active ingredients, ought to be maintained at a temperature between 130° and 150° F. during the time of inhalation. Various forms of inhalers are in use, but if one cannot be readily obtained a fairly efficient substitute may be improvised out of a wide-mouthed jug, which should be half filled with the medicated water at a temperature of 180° F. The orifice of the jug should be encircled by a towel, which also surrounds the nostrils and mouth of the patient and prevents the escape of the medicated vapour.

Cold moist inhalations are prepared with medicated water at a temperature between 60°—100° F. Volatile oils are frequently prescribed in mixtures for moist inhalations. They are

usually suspended by light carbonate of magnesium in the proportion of half a grain of the powder to each drop of oil.

Dry inhalations are prepared with a volatile oil and absolute alcohol or rectified spirit, ethers, and other substances volatile at ordinary temperatures.

These medicaments may be poured on the sponge of a respirator or on cotton-wool, sawdust, shavings, blotting paper, &c., in one of the various forms of oro-nasal inhalers, and the air charged with the vapour of the drug is drawn into the lungs.

The following substances are suitable for use as inhalations, either in the moist or dry form :—

- Benzoic Acid (ʒi. to the Oi.).
- Carbolic Acid (gr. xx. to the Oi.).
- Hydrocyanic Acid dilute (ʒx. to the Oi.).
- Sulphurous Acid (ʒi. to the Oi.).
- Chloride of Ammonium Vapour.
- Amyl Nitrite (ʒi. to the Oi.).
- Compound Tincture of Benzoin (ʒi. to the Oi.).
- Cajuput Oil (ʒi. to the Oi.).
- Spirit of Camphor (ʒx. to the Oi.).
- Chloroform and Rectified Spirit (āā ʒss. to the Oi.).
- Conium [succus conii] (ʒii. to the Oi.).
- Creosote (ʒxv. to the Oi.).
- Oil of Cubebs (ʒv. to the Oi.).
- Oil of Eucalyptus (ʒiii. to the Oi.).
- Tincture of Iodine (ʒxx. to the Oi.).
- Oil of Juniper (ʒxv. to the Oi.).
- Pinol (ʒxx. to the Oi.).
- Oil of Scotch Pine (ʒv. to the Oi.).
- Oil of Sandal Wood (ʒv. to the Oi.).
- Terebene (ʒv. to the Oi.).
- Thymol (ʒi. to the Oi.).

Nebulæ or Spray Inhalations.—Nebulæ are liquid preparations administered in the form of an atom-

ised spray, which is inhaled. The spray is made by one of the many forms of instruments known as atomisers or nebulisers.

The formulæ suitable for use as sprays have already been given.

Fumigations or Smoke Inhalations.—Fumigations are usually made with a basis of nitrate of potassium, to which belladonna, hyoscyamus, stramonium, tobacco, camphor, benzoin, or cinnamon, &c., are not uncommonly added.

The fumigation may be prescribed in the form of a powder, or of strips of blotting-paper which have been soaked in a watery solution of potassium nitrate (gr. xxx.—ʒi. to the ʒi.) and allowed to dry. The strips of blotting-paper may be further medicated by treating them with a solution of one of the volatile oils in rectified spirit (ʒi.—ʒix.), or with the tincture of one or more of the drugs mentioned above.

The powder or blotting-paper, as the case may be, is then ignited in a suitable receptacle and the smoke inhaled.

Sulphur and mercury are sometimes administered as a fumigation in the form of a sublimed vapour, which is produced at high temperatures by means of a special apparatus.

THE FORMULÆ USED IN THE ADMINISTRATION OF DRUGS BY INTRAVENOUS INJECTION.

The intravenous injection of drugs is very seldom practised in man, but mercury, formalin and other substances are sometimes employed in this way.

E. H. C.

PART II.

Application of the Methods of Prescribing.

CHAPTER I.

ALIMENTARY SYSTEM.

THE application of medicinal methods of treatment to the alimentary system may be considered most conveniently by taking seriatim the more common diseases of the alimentary canal, beginning at the mouth and proceeding downwards.

The following table embraces the most important diseases:—

(1) The Mouth.

- (a) Aphthous conditions.
- (b) Ulcerative stomatitis.
- (c) Specific ulcerations.

(2) The Pharynx.

- (a) Tonsillitis.
 - (i.) Rheumatic.
 - (ii.) Chronic inflammation.
- (b) Quinsy.
- (c) Granular pharyngitis.
- (d) Diphtheritic Throat.

(3) The Stomach.

- (a) Dyspepsia, acute and chronic.
- (b) Gastric ulcer.
- (c) Vomiting.
- (d) Dilatation of the stomach.
- (e) Malignant disease.
- (f) Gastralgia.

(4) The Liver.

- (a) Hepatic dyspepsia (biliousness).
- (b) Jaundice.
- (c) Gall stones.

(5) The Intestines

- (a) Colic.
- (b) Constipation.
- (c) Diarrhœa.
- (d) Gastro-enteritis.
- (e) Hæmorrhoids.
- (f) Intestinal worms.

It must be understood that the foregoing table does not in any way aim at being either a scientific, or comprehensive classification of the diseases of the alimentary system ; all that is intended is an arbitrary grouping of diseases in order to exemplify the methods of treatment.

Aphthous and ulcerative conditions of the mouth are most advantageously treated by exhibiting together local and general applications. In all simple ulcerative conditions of the mouth chlorate of potash, given both as a topical application and internally, acts almost as a specific. As a mouth wash it may be prescribed as follows :—

R	Potassii Chloratis	...	...	...	gr. xv.
	Aquæ Destillatæ	...	...	..	℥i.
	Fiat Gargarisma.	S.	To be used frequently.		

At the same time a mixture containing chlorate of potash should be given :—

R Potassii Chloratis gr. x. vel. xx.
 Acidi Sulphurici diluti ℥v.
 Glycerini ℥i.
 Infusi Cinchonæ Acidi ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

In order to obtain the full specific effects of chlorate of potash it must be given in somewhat large doses, and as a rule it is well borne.

Owing to the destructive influence sulphurous acid has upon the *Oidium albicans* in thrush, gargles composed of this drug are often employed. Thus:—

R Sodii Sulphitis ℥i.
 Aquæ Destillatæ ℥i.
 Fiat Gargarisma. S. To be used frequently.

When the mouth ulceration shows signs of healing, a mouth wash which gives considerable tone to the mucous membrane is:—

R Acidi Sulphurici diluti ℥xx.
 Decocti Cinchonæ q.s. ad ℥i.
 Fiat Gargarisma. S. To be used frequently.

Syphilitic ulceration of the mouth must be treated upon the same principles, mercury of course entering largely into the composition of the various mouth washes. As examples of these may be given:

R Liquoris Hydrargyri Perchloridi ... ℥ii.
 Syrupi Aurantii ℥i.
 Aquæ q.s. ad ℥i.
 Fiat Gargarisma. S. To be used frequently.

Or,

R Lotiois Hydrargyri Nigræ ... ℥ss.
 Tincturæ Myrrhæ ℥xv.
 Aquæ q.s. ad ℥i.
 Fiat Gargarisma. S. To be used frequently.

At the same time the general specific treatment of syphilis must be undertaken, and to this end may be prescribed :—

R Liquoris Hydrargyri Perchloridi ... ℥i.
 Potassii Iodidi gr.v.
 Tincturæ Cardamomi Compositæ ... ℥ss.
 Aquæ Destillatæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

DISEASES OF THE PHARYNX.

In diseases under this category the same principles of treatment as have just been described under diseases of the mouth must guide us.

Tonsillitis.—This may be due to a simple cause, or it may depend on a rheumatic diathesis. In the latter event the more or less specific treatment for rheumatic conditions to be given hereafter must be adopted. However, in all cases of tonsillitis, from whatsoever cause arising, the gargles given above may be administered. In many instances a more astringent form of medication will be found to be productive of better results. The following gargles exert an astringent effect :—

R Glycerini Acidi Tannici ℥ii.
 Aquæ q.s. ad ℥i.
 Fiat Gargarisma. S. To be used frequently.

R Aluminis gr.x.
 Infusi Rosæ Acidi ℥i.
 Fiat Gargarisma. S. To be used frequently.

R Tincturæ Ferri Perchloridi ... ℥ss.
 Potassii Chloratis gr.xv.
 Glycerini ℥i.
 Syrupi Limonis ℥ss.
 Aquæ q.s. ad ℥i.
 Fiat Gargarisma. S. To be used frequently.

R	Tincturæ Capsici	...	...	...	℥x.
	Acidi Hydrochlorici Diluti	...	...	...	℥x.
	Syrupi Limonis	...	...	...	℥ss.
	Decocti Cinchonæ	...	...	q.s. ad	℥i.
Fiat Gargarisma. S. To be used frequently.					

In addition to the topical treatment of tonsillitis it must not be forgotten that this disease is attended by much constitutional disturbance which calls for internal treatment by means of tonics.

R	Liquoris Ferri Perchloridi	...	...	...	℥x.
	Tincturæ Nucis Vomicae	...	...	...	℥v.
	Acidi Phosphorici Diluti	...	...	...	℥v.
	Spiritus Chloroformi	...	...	...	℥x.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

R	Quininæ Sulphatis	...	...	...	gr. i.
	Acidi Sulphurici Diluti	...	...	...	℥iv.
	Ferri Sulphatis	...	...	...	gr. i.
	Tincturæ Aurantii	...	...	...	℥ss.
	Infusi Calumbæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Chronic Inflammation of the tonsils, when operative procedures are unnecessary, may be treated by painting them over with various astringent drugs. Thus the tonsils may be brushed over with:—

R Glycerini Aluminis

Fiat Pigmentum. S. To be applied to the tonsils on a brush.

R	Tincturæ Ferri Perchloridi	...	...	...	℥ss.
	Glycerini Acidi Tannici	...	...	...	℥ii.

Fiat Pigmentum. S. To be painted on the tonsils.

Quinsy.—Medicinal measures do not play an important part in the treatment of this disease. It may, however, be pointed out that the affection

may sometimes be cut short by means of guaiacum. Three grains of the resin taken in the form of a lozenge may be given every two hours, often with very good results.

Granular Pharyngitis.—In this disease the astringent gargles given above when speaking of diseases of the pharynx may be prescribed with advantage, though treatment by means of the galvanic cautery is the most efficacious plan of dealing with this affection. Nitrate of silver (gr. xx.— \bar{z} i.) is also a useful application.

Diphtheritic Throat.—In the treatment of this affection the aim must be to purify and render aseptic the mucous membrane. Gargles which exert an antiseptic action must be employed, as for instance :—

R	Potassii Permanganatis	...	...	gr. ii.
	Aquæ Destillatæ	...	...	\bar{z} i.
	Fiat Gargarisma.	S.	To be used frequently.	
R	Acidi Carbolici	...	...	gr. iiss.
	Aquæ Destillatæ	...	...	\bar{z} i.
	Fiat Gargarisma.	S.	To be used frequently.	
R	Liquoris Chlori	...	...	\bar{z} i.
	Aquæ	...	...	q.s. ad \bar{z} x.
	Fiat Gargarisma.	S.	To be used frequently.	

A most efficient wash which quickly removes foetor and renders the mucous membrane healthy and clean is :—

R	Liquoris Sodæ Chlorinatæ...	...	℥ss.
	Aquæ Destillatæ	...	q.s. ad ℥i.
	Fiat Gargarisma.	S.	To be used frequently.

DISEASES OF THE STOMACH.

We now have to consider the treatment, by means of drugs, of the various disorders of the

stomach set down in the table; but before giving the formulæ to be employed in the treatment of the various diseases, the fact must be emphasised that diseases of the stomach and intestines can be only partially relieved by drugs. The dietetic treatment is of the utmost importance, but this subject does not come within the scope of this book, and must be learnt elsewhere.

Dyspepsia.—This disease may present itself in either an acute or chronic form. The following combination may be employed in the treatment of acute dyspepsia :—

R	Bismuthi Subnitratis	...	...	gr. xii.
	Sodii Bicarbonatis	...	...	gr. xv.
	Acidi Hydrocyanici Diluti...	...	...	℥iii.
	Spiritus Chloroformi	...	...	℥xv.
	Aquæ	...	...	q.s. ad ʒi.

Fiat mistura. S. Two tablespoonfuls to be taken three times a day, or every six hours, before food.

This prescription is most useful when there is pain and sickness, as the bismuth and hydrocyanic acid both act as sedatives to the mucous membrane. Sulphate of magnesium may also be added to this formula to counteract the somewhat constipating effect of the bismuth salt.

Very often the pain is the most prominent symptom of acute dyspepsia and calls for special treatment, when the following combination may be given :—

R	Liquoris Morphinae Hydrochloridi	℥v. ad viii.
	Acidi Hydrocyanici Diluti...	... ℥iii.
	Sodii Bicarbonatis ...	... gr. x.
	Aquae Chloroformi ...	... q.s. ad ʒss.

Fiat Mistura. S. One tablespoonful to be taken every four or six hours.

In some cases effervescing draughts are borne better by the patient. These may be prescribed as follows :—

R	Sodii Bicarbonatis	...	...	...	gr. xx.
	Aquæ Destillatæ	...	...	...	ʒi.
Misce.					

R	Acidi Tartarici	...	...	...	gr. xvii.
	Aquæ Destillatæ	...	...	...	ʒi.

Misce. S. Mix the two solutions, and drink in effervescence every six hours.

When the acute dyspepsia is to a certain extent dependent upon a lithæmic condition give :—

R	Potassii Bicarbonatis	...	...	...	gr. xx.
	Aquæ Destillatæ	...	...	...	ʒi.
Misce.					

R	Acidi Citrici...	...	...	...	gr. xiv.
	Aquæ Destillatæ	...	...	...	ʒi.

Misce. S. Mix the two solutions, and drink in effervescence every four or six hours.

Acute epigastric pain may often be relieved by the application of a small blister to the epigastrium. At the beginning of the acute attack relief may be obtained by the use of an emetic. Thus :—

R	Zinci Sulphatis	...	...	...	gr. xx.
	Pulveris Ipecacuanhæ	...	...	...	gr. x.
	Aquæ	...	...	...	ʒiiss.

Fiat Mistura. S. To be taken at once.

Chronic Dyspepsia.—In this condition somewhat different formulæ may be used.

When there is flatulence and a sensation of fulness after meals the following prescription has an excellent effect :—

R	Sodii Bicarbonatis	gr. xv.
	Tincturæ Gentianæ Compositæ ...	℥xx.
	Spiritus Chloroformi	℥xv.
	Infusi Rhei	℥ii.
	Aquæ Menthæ Piperitæ .. q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

The compound tincture of cardamoms (℥ss.) may be substituted for the infusion of rhubarb when the latter drug is objected to. As there is almost always a tendency to constipation in chronic dyspepsia some aperient should be given, either in the form of sulphate of magnesium added to the preceding prescription, or some gentle aperient pill. In long-standing cases of chronic dyspepsia, where the mucous membrane of the stomach has passed into a condition of atony, dilute mineral acids may sometimes be given with excellent effect, and the prescription is generally of more use if strychnia or nux vomica is added. Thus :—

R	Acidi Nitro-hydrochlorici Diluti ...	℥vii.
	Tincturæ Nucis Vomicae	℥ii.
	Tincturæ Aurantii	℥xx.
	Spiritus Chloroformi	℥x.
	Aquæ	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

In other cases the acids combined with bitter infusions are of considerable value.

R	Acidi Nitro-hydrochlorici Diluti ...	℥vii.
	Liquoris Strychninae Hydrochloridi	℥iii.
	Spiritus Chloroformi	℥xv.
	Infusi Quassiaæ	q.s. ad ℥i.
	(Vel Infusi Gentianæ Compositi q.s. ad	℥i.)

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or a bitter mixture containing an alkali may be given.

℞ Sodii Bicarbonatis	gr. xv.
Tincturæ Aurantii	℥xx.
Infusi Gentianæ Compositi q.s. ad	℥i.
(Vel Infusi Calumbæ q.s. ad	℥i.)

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Another useful formula in atonic dyspepsia is :—

℞ Radicis Rhei Contusæ	gr. ii.
Radicis Zingiberis	gr. ii.
Radicis Gentianæ	gr. iv.
Sodii Bicarbonatis	gr. xv.
Spiritus Chloroformi	℥xv.
Aquæ q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Pepsine may also be given when there is reason to suppose that there is a deficiency of gastric juice. This is most conveniently exhibited as—

℞ Glycerini Pepsini	℥i.
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Fiat Mistura. S. One teaspoonful to be taken after food.

When flatulence alone is a prominent symptom the following may be given :—

℞ Tincturæ Zingiberis	℥xx.
Tincturæ Lavandulæ Compositæ ...	℥ss.
Tincturæ Cardamomi Compositæ ...	℥ss.
Aquæ q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞ Olei Cajuputi	℥iii.
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Fiat Oleum. S. To be taken on a piece of sugar.

Pyrosis or waterbrash, so often present in dyspepsia, may be controlled almost with certainty by giving :—

℞ Pulveris Kino Compositi gr. v.
 Fiat Pulvis. S. One powder once or twice a day.

In the sour eructations of dyspepsia charcoal is of value.

℞ Carbonis Ligni ℥i.
 Suspend in—
 Tincturæ Rhei ℥i.
 Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken after food three times a day.

Gastric Ulcer.—The treatment of this disease by means of drugs is very similar to that of acute dyspepsia, and the formulæ given under that heading will serve here. The aim must be to give the stomach rest and relieve the symptoms. It is not perhaps good practice to prescribe bicarbonate of soda. The prescription may therefore be as follows:—

℞ Bismuthi Subnitratis gr. xv.
 Acidi Hydrocyanici Diluti ... ℥iii.
 Liquoris Morphinæ Hydrochloridi ℥v. ad x.
 Spiritus Chloroformi ℥x.
 Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

When hæmatemesis is present in gastric ulcer the various hæmostatics may with advantage be used combined with some form of opium. For example:—

℞ Pilulæ Plumbi c̄ Opio gr. iv.
 Fiat Pilula. S. One to be taken every four or six hours.
 ℞ Glycerini Acidi Tannici vel Gallici ℥xx.
 Syrupi Limonis ℥i.
 Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

℞ Terebeni
 Mucilaginis Tragacanthæ } ... āā ʒi.
 Glycerini
 Aquæ Cinnamomi ... q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

℞ Injectionis Morphinae Hypodermicæ.

Fiat Injectio. S. Three to five minims to be injected under the skin.

℞ Injectionis Ergotæ Hypodermicæ.

Fiat Injectio. S. Three to ten minims to be injected subcutaneously.

Vomiting.—In cases of vomiting due to disorders of the gastro-intestinal tract, the sedative formulæ given under acute dyspepsia may be employed or the various effervescing mixtures there set down. In addition the following may be tried:—

℞ Creosoti mī. ad ii.
 Saponis Animalis
 Pulveris Glycyrrhizæ q.s.

Fiat Pilula. S. One to be taken three times a day.

℞ Cerii Oxalatis gr.i.—iv.

Pone in cachetam. S. One to be taken three times a day or oftener.

In sea-sickness a trial may be made of the following:—

℞ Potassii Bromidi gr. x. ad xx.
 Syrupi Chloral ʒss.
 Aquæ q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken once or twice a day.

℞ Caffeinae Citratis Effervescentis ... ʒi.

Fiat Pulvis. S. To be taken in half a tumbler of water and repeated if required.

Malignant Disease of the Stomach.—In this condition the chief aim is to allay pain and treat the dyspeptic symptoms that arise.

For the pain, morphia must be used boldly. Thus:—

℞ Liquoris Morphinæ Hydrochloridi ℥x. ad xl.
 Syrupi Limonis ʒi.
 Aquæ q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Injectionis Morphinæ Hypodermicæ

Fiat Injectio. S. Three to five minims to be injected beneath the skin.

The dyspeptic symptoms must be combated by means of the formulæ already given.

Gastralgia.—This condition frequently calls for treatment. Any of the sedative mixtures given above may be employed, but in addition arsenic is a drug, which acts with considerable effect. It may be given as follows:—

℞ Liquoris Arsenicalis ℥iii.
 Aquæ Cinnamomi q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

DISEASES OF THE LIVER.

Hepatic Dyspepsia or Biliousness.—In this disease the treatment may be begun by prescribing a mercurial purge, as for instance:—

℞ Pilulæ Hydrargyri gr. iii.
 Pilulæ Rhei Compositæ gr. ii.
 Fiat Pilula. S. One pill to be taken as required.

Or euonymin and podophyllin may be given in the form of a pill:—

℞ Podophylli Resinæ gr. ss.
 Extracti Euonymi Sicci gr. iss.
 Extracti Hyoscyami gr. iiiss.
 Fiat Pilula. S. One pill to be taken at night.

After a free action of the bowels has been obtained saline aperients should be administered, and those which closely resemble the natural waters are preferable. Thus the following formula, which is a copy of the famous Carlsbad salts, may be given:—

R̄ Sodii Chloridi ʒi.
 Sodii Bicarbonatis ʒii.
 Sodii Sulphatis ʒss.

Fiat Pulvis. S. One or two teaspoonfuls in a tumblerful of hot water, or as an effervescing draught in the same quantity of cold water in which 15 grs. of tartaric acid have been dissolved.

Any indication of gastric dyspepsia must be met by prescribing some of the formulæ given under that heading.

Jaundice.—This disorder must be treated upon much the same lines as hepatic dyspepsia. Sometimes dilute mineral acids are of service, for instance:—

R̄ Acidi Nitro-hydrochlorici Diluti miii.
 Tincturæ Aurantii mxx.
 Spiritus Chloroformi m̄x.
 Aquæ Destillatæ q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Gall Stones.—During the attack the aim of treatment is to relieve pain. To this end inhalations of chloroform may be given, or morphia injected hypodermically in considerable doses (gr. $\frac{1}{4}$ — $\frac{1}{2}$) with caution, in the manner previously described. A trial may also be made of belladonna and chloral hydrate. Thus:—

R̄ Tincturæ Belladonnæ m̄v.
 Syrupi Chloral ʒss.
 Syrupi Limonis ʒss.
 Aquæ q.s. ad ʒss.

Fiat Mistura. S. One tablespoonful to be taken every three hours.

The sickness during the attack of colic must be treated in the ordinary way.

DISEASES OF THE INTESTINES.

Colic.—In the treatment of this condition the indications are to secure in the first place a free evacuation of the bowels and then to relieve the pain. The following combination may be exhibited with the object of fulfilling both these indications:—

℞ Magnesii Sulphatis ℥iv.
 Liquoris Morphinae Hydrochloridi ℥vii.
 Extracti Glycyrrhizæ Liquidum ... ℥xxx.
 Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞ Tincturæ Opii ℥xx.
 Olei Ricini ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken at once.

When the attack is due to lead poisoning it becomes necessary to attempt to eliminate the poison, and for this purpose iodide of potassium should be employed.

℞ Potassii Iodidi gr. v. ad x.
 Spiritus Ammoniaë Aromatici ... ℥xx.
 Spiritus Chloroformi ℥x.
 Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Constipation.—In the treatment of this condition a multitude of formulæ have been devised, but within the limits of this work it will be possible to give a few examples only. Constipation should not necessarily be treated by purgatives, but rather by those drugs which, in combination, act as laxatives and at the same time give tone to the bowel.

Treatment may be prefaced in many instances by a brisk purge. Thus:—

℞ Magnesii Sulphatis ... 3iv.
 Extracti Glycyrrhizæ Liquidī ... 3ss.
 Aquæ ... q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice a day.

Or if a pill be preferred the following may be given:—

℞ Hydrargyri Subchloridi ... gr. i.
 Extracti Colocynthis Compositi gr. iii.
 Extracti Hyoscyami ... gr. i.

Fiat Pilula. S. One or two pills at bedtime.

When the bowels have been freely evacuated purgatives should be discontinued, and a formula prescribed which, as just stated, gives tone to the bowel, for instance:—

℞ Ferri Sulphatis ... gr. ii.
 Extracti Aloes Barbadosis ... gr. i.
 Extracti Belladonnæ ... gr. ¼.

Fiat Pilula. S. One pill to be taken three times a day.

The number of these pills taken per diem should be gradually decreased.

If a pill be objected to, a mixture such as the following may be substituted:—

℞ Tincturæ Belladonnæ ... miii.
 Misturæ Ferri Compositæ ... 3iii.
 Decocti Aloes Compositi... q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice a day.

Another very useful remedy in constipation is Cascara. If used in the form of a mixture:—

℞ Extracti Cascaræ Sagradæ Liquidī mxxx.
 Syrupi Zingiberis... mxxx.
 Aquæ Cinnamomi ... q.s. ad 3ss.

Fiat Mistura. S. One tablespoonful to be taken twice or three times a day.

If used as a pill :—

R̄	Extracti Cascaræ Sagradæ	...	gr. iii.
	Extracti Nucis Vomicae	...	gr. $\frac{1}{4}$.
	Ferri Sulphatis	...	gr. ii.
	Fiat Pilula. S. One pill to be taken twice a day.		

A powder which is frequently of service is:—

R̄	Guaiaci Resinæ	}	...	aa	℥ss.
	Sulphuris Sublimati				
	Magnesiæ Carbonatis	...	...	...	℥i.

Fiat Pulvis. S. Half a teaspoonful to be taken as required.

Other formulæ for pills which are of service in the treatment of constipation are:—

R̄	Podophylli Resinæ	...	...	gr. $\frac{1}{2}$.
	Extracti Belladonnæ	...	...	gr. $\frac{1}{4}$.
	Extracti Nucis Vomicae	...	...	gr. $\frac{1}{2}$.
	Extracti Hyoscyami	...	...	gr. i.
	Pilulæ Colocynthis Compositæ	q.s. ad		gr. v.

Fiat Pilula. S. One or two pills to be taken as required.

Or,

R̄	Extracti Nucis Vomicae	...	gr. $\frac{1}{4}$.
	Extracti Hyoscyami	...	gr. i.
	Pilulæ Rhei Compositæ	...	gr. iv.

Fiat Pilula. S. One pill to be taken as required.

Or,

R̄	Extracti Nucis Vomicae	...	gr. $\frac{1}{4}$.
	Extracti Aloes	...	gr. i.
	Pulveris Myrrhæ	...	gr. ii.
	Saponis	...	q.s.

Fiat Pilula. S. One pill to be taken as required.

Or,

R̄	Extracti Belladonnæ	...	gr. $\frac{1}{4}$.
	Aloini	...	gr. $\frac{1}{2}$.
	Saponis	...	q.s.

Fiat Pilula. S. One or two pills to be taken at night.

Diarrhœa.—In the medicinal treatment of diarrhœa the formulæ to be used depend largely on the acute or chronic nature of the attack.

In an acute attack of diarrhœa, with vomiting, stomachic sedatives must be prescribed, and the reader is referred to the formulæ under the heading of acute dyspepsia. When, however, the attack is chronic the more astringent drugs must be exhibited. For instance:—

R̄	Tincturæ Opii	...	...	...	℥v.
	Tincturæ Catechu...	...	...	...	℥ss.
	Misturæ Cretæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

R̄	Tincturæ Catechu...	...	...	...	℥ss.
	Tincturæ Camphoræ Compositæ	...	...	...	℥ss.
	Decocti Hæmatoxili	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

R̄	Liquoris Ferri Pernitratis...	...	...	...	℥xv.
	Tincturæ Opii	...	...	...	℥v.
	Tincturæ Lavandulæ Compositæ	...	...	...	℥ss.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice a day.

Intestinal antiseptics are often of great use. For instance:—

R̄	Beta-naphthol	...	...	...	gr. iii.
	Glucosi	...	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day. Or the powder may be taken in cachets.

Or,

R̄	Bismuthi Salicylatis	gr. v.
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Pone in cachetam. S. One cachet to be taken three times a day.

Or,

R̄	Liquoris Hydrargyri Perchloridi	℥ss.
	Tincturæ Cardamomi Compositæ	...	...	...	℥ss.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

When there is reason to believe that the diarrhoea is due to disease of the large intestine, ipecacuanha combined with castor oil and opium is of great value.

R̄	Tincturæ Opii	...	...	...	℥v.
	Vini Ipecacuanhæ...	...	...	...	℥v.
	Olei Ricini	...	...	...	℥v.
	Mucilaginis Tragacanthæ...	...	...	...	℥xv.
	Glycerini	...	...	...	℥i.
	Aquæ	...	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

Hæmorrhoids.—A few words may be said with regard to the medicinal treatment of this affection. The internal treatment consists in keeping the bowels gently open, and to this end some of the milder preparations given under the heading of constipation may be prescribed, such as Cascara, &c.

Locally the piles may be painted by various astringent and sedative drugs. For instance, tinctura hamamelidis, painted on with a brush, is useful, or an ointment composed of hamamelis and cocaine hydrochlorate (gr. $\frac{1}{2}$) may be used. Again the unguentum galli c. opio of the British Pharmacopœia is very useful.

Intestinal Worms.—Intestinal Worms are efficiently treated by means of drugs. In cases of tape worm the most commonly used drug is the extract of male fern, and this remedy may be prescribed as follows:—

R̄	Extracti Filicis Liquidi	...	...	...	℥i. ad ℥iss.
	Syrupi Zingiberis...	...	...	...	℥i.
	Mucilaginis Tragacanthæ...	...	...	...	q.s.
	Aquæ Cinnamomi...	...	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken fasting.

This draught should be followed by a saline purge. Infusum Cusso, in a dose of ℥iv., is also prescribed

in cases of tape worm and should be followed by an aperient.

Kamala powder is also given in the following form:—

Rx	Pulveris Kamalæ	3i.
	Extracti Glycyrrhizæ Liquidī ...	3i.
	Aquæ q.s. ad	3ss.
Fiat Mistura. S. One tablespoonful three times a day.		

In cases of ascarides the drug most frequently prescribed is Santonin. This may be given in the form of a powder combined with a purgative.

Rx	Jalapini	gr. i.
	Hydrargyri Subchloridi	gr. $\frac{1}{2}$.
	Santonini	gr. i. ad gr. ii.
Fiat Pulvis. S. One powder to be taken twice a day.		

Or the Santonin may be prescribed in the form of a confection.

Rx	Santonini	gr. i.
	Pulveris Zingiberis	gr. i.
	Pulveris Jalapæ	gr. iv.
	Pulveris Sulphuris	gr. iv.
	Confectionis Sennæ ... q.s. ad	3i.
Fiat Confectio. S. One teaspoonful once a day for a child.		

Kamala and Thymol are also used.

In cases of oxyurides, enemata of salt and water, Quassia, Catechu, Hæmatoxylum, and Tannic acid or Turpentine are used.

Internally purgatives and Assafoetida are prescribed.

Diarrhœa in Children.—Diarrhœa when occurring in children requires somewhat different treatment; and a few formulæ may be given to indicate the special method of prescribing. The treatment by means of drugs, may be divided under three heads.

- (a) Sedatives.
- (b) Astringents.
- (c) Antiseptics.

As examples of sedative mixtures the following may be used.

R̄	Bismuthi Carbonatis	...	...	gr. v.
	Magnesii Carbonatis Ponderosæ	...	...	gr. i.
	Mucilaginis Tragacanthæ	...	...	q.s.
	Aquæ Carui	...	...	q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful three times a day.

To this mi of Tincturæ Opii may be given with good effect.

Bismuth may be combined with an astringent as follows:—

R̄	Bismuthi Subnitratis	...	...	gr. v.
	Liquoris Potassii	...	...	ʒii.
	Tincturæ Catechu	...	...	ʒiii.
	Tincturæ Cardamomi Compositæ	...	...	ʒv.
	Spiritus Chloroformi	...	...	ʒv.
	Mucilaginis Tragacanthæ	...	...	q.s.
	Aquæ	...	...	q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful three times a day.

As examples of astringent prescriptions, the following may be given.

R̄	Tincturæ Catechu	...	...	ʒx.
	Misturæ Cretæ	...	...	q s. ad ʒi.

Fiat Mistura. S. One teaspoonful three times a day.

Or,

R̄	Liquoris Ferri Pernitratis	...	...	ʒii.
	Tincturæ Opii	...	...	ʒi.
	Tincturæ Cardamomi Compositæ	...	...	ʒv.
	Aquæ	...	...	q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful to be taken three times a day.

Intestinal Antiseptics may be given with advantage.
Thus:—

℞ Naphthalini Puris gr. i.
Syrupi ℥x.
Mucilaginis Tragacanthæ q.s.
Aquæ Carui q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful to be taken three times
a day.

Or,

℞ Liquoris Hydrargyri Perchloridi ℥v.
Tincturæ Cardamomi Compositæ ℥v.
Aquæ Destillatæ q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful to be taken three times
a day.

A. C.

CHAPTER II.

CARDIO-VASCULAR SYSTEM.

THE medicinal treatment of affections of the cardio-vascular system will be considered under the following arrangement:—

- (1) Diseases of the pericardium.
- (2) Diseases of the endocardium.
 - (a) Acute endocarditis.
 - (b) Chronic endocarditis.
- (3) Diseases of the myocardium.
- (4) Angina pectoris.
- (5) Functional affections of the heart.
- (6) Diseases of the blood vessels.

DISEASES OF THE PERICARDIUM.

Inasmuch as acute pericarditis occurs with very few exceptions as a local manifestation or complication of some general disorder, to wit, acute and chronic rheumatism, Bright's disease, the acute specific fevers, the treatment of the condition must be regulated by the nature of the primary affection. In rheumatic cases it is unnecessary to discontinue the use of salicylates, but the depressing effect of these remedies should be minimised or removed as far as possible by the addition of carbonate of ammonia and nux vomica, as in the following combination:—

℞	Ammonii Carbonatis	...	...	gr. iii.
	Sodii Salicylatis	...	...	gr. xv.
	Potassii Bicarbonatis	...	...	gr. xx.
	Tincturæ Nucis Vomicae	...	...	℥v.
	Syrupi Aurantii	...	...	℥i.
	Aquæ Cinnamomi	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

If indications of cardiac weakness or insufficiency make their appearance, the following combination may be substituted:—

℞	Potassii Iodidi	...	...	gr. iv.
	Sodii Salicylatis	...	...	gr. xv.
	Tincturæ Digitalis	...	...	℥viii.
	Tincturæ Cardamomi Compositæ	...	...	℥ss.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

Many physicians prefer to use salicin in place of the salicylates in the treatment of acute rheumatic affections of the heart, and this drug may replace the salicylate of soda in the foregoing formulæ. Others, again, altogether discard both the salicylates and salicin, and give instead alkalies, either alone or in combination with quinine in the form of an effervescing mixture (see p. 145).

The accompanying prescription illustrates the kind of combination likely to prove of service in the treatment of pericarditis complicating Bright's disease:—

℞	Potassii Citratis	...	...	gr. xx.
	Liquoris Ammonii Acetatis	...	...	℥ii.
	Tincturæ Digitalis	...	...	℥viii.
	Syrupi Limonis	...	...	℥i.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

Indications of cardiac failure should be met by the exhibition of the following mixture :—

℞	Tincturæ Digitalis ...	...	...	℥v.
	Tincturæ Nucis Vomicae ...	...	...	℥v.
	Spiritus Ammoniaë Aromatici ...	...	...	℥ss.
	Elixiris Simplicis ...	...	...	℥ss.
	Aquæ Camphoræ ...	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every two, four or six hours.

In more urgent cases temporary stimulation of the heart may be effected by means of :—

℞	Spiritus Ætheris ...	...	...	℥ss.
	Spiritus Ammoniaë Aromatici ...	...	...	℥ss.
	Tincturæ Aurantii ...	...	...	℥xx.
	Aquæ Camphoræ ..	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every one, two, three or four hours as required.

The hypodermic injection of strychnine constitutes the most rapid, reliable, and effective means of stimulating the heart that we possess.

℞ Liquoris Strychninaë Hydrochloridi ℥iii.

Fiat Injectio. S. To be given at once and repeated if necessary.

Or,

℞ Liquoris Strychninaë Hydrochloridi ℥iii.

Digitalin gr. $\frac{1}{100}$.

Fiat Injectio. S. To be given at once and repeated if necessary.

Præcordial pain and distress may be relieved by means of opium, which is also serviceable in the treatment of insomnia. Thus :—

℞ Pulveris Ipecacuanhæ Compositi ... gr. x.

Fiat Pulvis. S. To be taken at night or when the pain is severe.

Or,

℞ Injectionis Morphinae Hypodermicae ℥iii.
Liquoris Strychninae Hydrochloridi ℥iii.

Fiat Injectio. S. To be given at night or when the pain is severe.

The following drugs are also useful in cases of sleeplessness :—

℞ Sulphonal gr. xv.—xxx.
Syrupi ℥i.
Pulveris Tragacanthæ Compositi ... ℥ss.
Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken at night.

Or,

℞ Paraldehydi ℥ss.
Syrupi ℥i.
Tincturæ Aurantii ℥i.
Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken at night, and repeated in an hour if required.

Dr. Cheadle recommends nepenthe (same strength as the Tinctura Opii) for the treatment of insomnia and cardiac excitement in children. The local treatment of præcordial pain and distress consists in the application of cold, in the form of an ice-bag, to the præcordium, or of hot fomentations, or of belladonna, or of counter-irritation in the shape of a few flying blisters, iodine, &c.

During convalescence a prescription such as the following is usually indicated :—

℞ Ferri Tartarati gr. viii.
Potassii Iodidi gr. v.
Tincturæ Digitalis ℥x.
Spiritus Chloroformi ℥x.
Infusi Calumbæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

In this prescription it will be noticed that iodide of potassium is compatible with tartarated iron, and also that the infusion of calumba, which does not contain tannin, may be prescribed with salts of iron.

DISEASES OF THE ENDOCARDIUM.

Acute Endocarditis.—The medicinal treatment of acute endocarditis should be conducted on the lines already laid down for acute pericarditis. The exhibition of drugs should be initiated by a brisk mercurial purge, as for example :—

℞ Hydrargyri Subchloridi ... gr. ii.
Pulveris Jalapæ Compositi ... ℥ss.
Fiat Pulvis. S. To be taken at night.

Or,

℞ Pilulæ Hydrargyri ... gr. iii.
Pilulæ Rhei Compositæ ... gr. v.
Fiat Pilula. S. To be taken at night.

The effect of these combinations should be hastened and completed by the administration on the following morning of a saline purgative mixture, such as the following :—

℞ Sodii Sulphatis ... ℥i.
Pulveris Zingiberis ... gr. v.

Fiat Pulvis. S. To be taken in a small tumblerful of warm water in the morning.

The ætiological factors concerned in the production of acute endocarditis usually call for the use of salicylates or alkalies or a combination of these remedies. Thus :—

℞ Sodii Salicylatis ... gr. xv.
Sodii Bicarbonatis ... gr. xxv.
Tincturæ Nucis Vomicae ... ℥v.
Tincturæ Lavandulæ Compositæ ... ℥ss.
Glycerini ... ℥ss.
Aquæ... ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every two, four, or six hours as required.

Or,

℞ Salicini	...	...	gr. xv.
Potassii Bicarbonatis	...	...	gr. xxx
Sodii Bicarbonatis	...	...	gr. xx.
Aquæ	...	...	℥i.

Fiat Mistura.

And also—

℞ Quininæ Sulphatis	...	...	gr. ii.
Acidi Citrici	...	...	gr. xxx
Syrupi Limonis	...	...	℥i.
Aquæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every three or four hours with an equal quantity of the alkaline mixture.

The salicin may be deleted, and nux vomica or carbonate of ammonia added in the case of the alkaline mixture as circumstances may require.

Cardiac embarrassment and distress, or failure of the heart, should be met in the manner already indicated under acute pericarditis.

Treatment during convalescence consists in promoting the resolution of the inflamed valves and in combating the anæmia which persists for weeks or months after the acute symptoms have subsided. The following combinations of drugs will be found useful for these purposes.

℞ Ferri et Ammonii Citratis	...	...	gr. x.
Potassii Bicarbonatis	...	...	gr. xv.
Liquoris Arsenicalis	...	...	℥iii.
Spiritus Ammonię Aromatici	...	...	℥ss.
Tincturæ Aurantii	...	...	℥ss.
Infusi Calumbæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Or,

℞ Ferri et Ammonii Citratis	...	...	gr. x.
Potassii Iodidi	...	...	gr. iv.
Liquoris Arsenicalis	...	...	℥iii.
Spiritus Chloroformi	...	...	℥x.
Aquæ Menthæ Piperitæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

The first of these prescriptions shows that the bicarbonate of potash and the aromatic spirits of ammonia are compatible with iron and ammonium citrate. The second illustrates a convenient method of combining iodide of potassium, arsenic and iron in a fluid form.

A combination of iron and quinine is also useful, as for instance :—

℞	Ferri et Quininæ Citratis	...	...	gr. x.
	Potassii Citratis	...	...	gr. xx.
	Tincturæ Nucis Vomicæ	...	...	℥viii.
	Syrupi Aurantii	...	...	℥i.
	Aquæ Chloroformi	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Chronic Endocarditis.—If compensation has been established medicinal treatment is not only unnecessary but may do harm. A daily action of the bowels is of the first importance, and if this cannot be obtained naturally it must be procured by medicinal means :—

℞	Hydrargyri Subchloridi	...	...	gr. i.—iii.
	Pilulæ Colocynthis et Hyoscyami	...	...	gr. iv.
	Fiat pilula.	S.	To be taken at night.	

Or,

℞	Pilulæ Hydrargyri	...	...	gr. ii.
	Pilulæ Rhei Compositæ	...	...	gr. iii.
	Fiat Pilula.	S.	To be taken at night.	

Or,

℞	Hydrargyri cum Creta	...	...	gr. iii.
	Aloini	...	...	gr. $\frac{1}{4}$ — $\frac{1}{2}$
	Extracti Hyoscyami	...	...	gr. iss.
	Fiat Pilula.	S.	To be taken at night.	

These pills may be followed by a mild saline aperient, which should be taken before breakfast on the following morning :—

℞ Pulveris Sodæ Tartaratæ Effervescentis.
Fiat Pulvis. S. To be taken before breakfast.

Or,

℞ Sodii Sulphatis ℥i.
Pulveris Zingiberis gr. v.

Fiat Pulvis. S. To be taken before breakfast in a small tumblerful of warm water.

It is sufficient in many instances to procure an action of the bowels by means of a dinner pill. Thus:—

℞ Aloini gr. $\frac{1}{2}$ —i.
Extracti Nucis Vomicae gr. $\frac{1}{4}$.
Extracti Rhei gr. ii.

Fiat Pilula. S. To be taken before dinner at night.

Hæmatinics and general tonics are sometimes required, and it occasionally happens that the judicious use of cardiac tonics is the means of averting an impending danger.

The mixtures which were prescribed during convalescence after acute endocarditis (see p. 92) are suitable under these circumstances, or the following combinations may be used:—

℞ Tincturæ Ferri Perchloridi ... mx.
Liquoris Strychninae Hydrochloridi miii.
Tincturæ Digitalis mviij.
Syrupi Limonis ℥i.
Glycerini ℥i.
Aquæ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

Or,

℞ Ferri et Ammonii Citratis gr. x.
Tincturæ Nucis Vomicae mviij.
Liquoris Arsenicalis miii.
Syrupi Aurantii ℥ss.
Aquæ Chloroformi q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

It will be observed that the tincture of digitalis and the tincture of the perchloride of iron are prescribed together in the first of these mixtures. Now we have seen that these drugs are incompatible, but the advantages of the combination outweigh the objections to its use, which consist in the production of a slightly inky-coloured solution (tannates).

The medicinal treatment of chronic valvular disease after failure of compensation consists in the removal, so far as possible, of the cause and effects of the cardiac break-down, and in the restoration of the power of the heart.

The elimination of imperfectly oxidized products from the blood and the reduction of high arterial tension can be accomplished by means of free purgation, for which purpose calomel (gr. i.—iii.), blue pill (gr. i.—iii.) or grey powder (gr. iii.—v.) should be employed in combination with compound jalap powder (ʒss.), rhubarb or colocynth, in the manner already indicated under acute endocarditis. The action of the kidneys can be promoted and the power of the heart increased by one or other of the following combinations:—

℞	Pulveris Digitalis	...	...	...	gr. i.
	Pulveris Scillæ	...	...	...	gr. i.
	Pilulæ Hydrargyri	...	...	...	gr. i.

Fiat Pilula. S. One pill to be taken after meals three times a day.

Or,

℞	Potassii Acetatis	...	...	...	gr. xx.
	Tincturæ Digitalis	...	...	...	℥x.
	Infusi Digitalis	...	...	...	ʒss.
	Syrupi Aurantii	...	...	...	ʒi.
	Aquæ Menthæ Piperitæ	...	q.s.	ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken every three, four or six hours as required.

Or,

℞	Potassii Iodidi	...	...	...	gr. v.
	Spiritus Ammoniae Aromatici	...	...	...	℥ss.
	Tincturae Digitalis	...	...	...	℥x.
	Elixiris Simplicis	...	...	...	℥ss.
	Infusi Senegae	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours as required.

Or,

℞	Tincturae Digitalis	...	...	...	℥v.
	Tincturae Strophanthi	...	...	...	℥x.
	Tincturae Scillae	...	...	...	℥x.
	Syrupi Aurantii	...	...	...	℥ss.
	Aquae Chloroformi	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours as required.

Or,

℞	Caffeinae Citratis	...	...	...	gr. v.
	Tincturae Digitalis	...	...	...	℥v.
	Spiritus Chloroformi	...	...	...	℥x.
	Syrupi Limonis	...	...	...	℥ss.
	Aquae	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every three hours.

Sudden or rapid cardiac failure should be met by:—

℞ Liquoris Strychninae Hydrochloridi ℥iii.

Fiat Injectio. S. To be given at once and repeated when necessary.

Or by,

℞	Spiritus Aetheris	...	...	...	℥ss.
	Spiritus Ammoniae Aromatici	...	...	...	℥ss.
	Tincturae Aurantii	...	...	...	℥ss.
	Aquae Camphorae	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be given every one, two, or three hours as required.

Cardiac pain and embarrassment may be relieved by:—

℞ Liquoris Strychninæ Hydrochloridi miii.
 Injectionis Morphinæ Hypodermicæ miii.
 Digitalin gr. ʒss.

Fiat Injectio. S. To be given at once and repeated when necessary.

The injection may, when required, be used in conjunction with :—

℞ Liquoris Trinitrini mī.—ii.
 Syrupi Aurantii ℥v.
 Aquæ Anethi q.s. ad ʒss.

Fiat Mistura. S. One tablespoonful to be given three or four times a day.

Insomnia may be treated in the manner indicated under acute pericarditis, or the following combination may be tried :—

℞ Ammonii Bromidi gr. xx.—xxx.
 Spiritus Ammonia Aromatici ... ʒss.
 Syrupi Rhœados ʒi.
 Aquæ Camphoræ q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken at night.

Or,

℞ Chloralamidi gr. xx.—xxx.
 Acidi Nitro-Hydrochlorici Diluti ... ℥vi.
 Spiritus Rectificati ℥xxx.
 Syrupi Zingiberis ʒi.
 Aquæ q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken at night.

Attacks of dyspnœa should be combated by free stimulation with ether and ammonia (see above), or should this treatment fail to do good, try :—

℞ Injectionis Morphinæ Hypodermicæ miii.
 Fiat Injectio. S. To be given at once.

The restoration of the power of the heart by medicinal means demands the administration of cardiac tonics, of which digitalis is by far the most generally useful. The action of this drug

in mitral regurgitation is altogether beneficial, thus:—

℞	Tincturæ Digitalis	...	...	...	℥viii.
	Infusi Digitalis	...	...	...	℥i.
	Potassii Acetatis	...	...	...	gr. xx.
	Syrupi Aurantii	...	...	...	℥i.
	Aquæ Destillatæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours as required.

In mitral stenosis digitalis usually does good for a time, but it frequently disagrees, and should then be replaced by:—

℞	Tincturæ Strophanthi	...	...	...	℥x.
	Extracti Convallariæ Fluidi	...	...	...	℥viii.
	Tincturæ Cardamomi Compositæ	...	...	...	℥ss.
	Syrupi Aurantii	...	...	...	℥ss.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The exhibition of digitalis in the treatment of aortic regurgitation requires caution, but if mitral incompetence be also present it usually acts beneficially.

℞	Tincturæ Digitalis	...	...	...	℥viii.
	Tincturæ Strophanthi	...	...	...	℥x.
	Elixiris Simplicis	...	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Aortic stenosis derives benefit from digitalis when mitral incompetence, due to failure of compensation, supervenes:—

℞	Sodii Nitritis	...	...	...	gr. ii.
	Tincturæ Digitalis	...	...	...	℥x.
	Syrupi Aurantii	...	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The treatment of chronic endocarditis after the subsidence of the acute symptoms consists in the exhibition of hæmatinics in conjunction with cardiac tonics. Thus :—

℞	Tincturæ Ferri Perchloridi	...	℥x.
	Liquoris Arsenici Hydrochlorici	...	℥iii.
	Liquoris Strychninæ Hydrochloridi		℥iii.
	Tincturæ Digitalis <i>vel</i> Strophanthi		℥x.
	Syrupi Aurantii	... ..	℥i.
	Aquæ Camphoræ	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken after meals three times a day.

DISEASES OF THE MYOCARDIUM.

The medicinal treatment of hypertrophy and dilatation of the heart does not require detailed consideration, since, for all practical purposes, it is covered by the formulæ given in the preceding section. Apart from enlargement of the heart, the treatment of affections of the myocardium by means of drugs is eminently unsatisfactory, and in a work of this kind hardly calls for comment. It may, however, be pointed out that cardiac tonics should be prescribed with very great caution, since the indiscriminate use of these drugs in the treatment of myocardial disease is not unattended by danger. This warning is especially applicable in the case of fatty degeneration of the myocardium. The drugs which are usually of most service in this condition are the iodides, arsenic, iron, and strychnine. The following prescription is sometimes useful :—

℞ Ferri et Ammonii Citratis ...	gr. viii.
Sodii Iodidi ...	gr. v.
Liquoris Arsenicalis ...	℥iii.
Tincturæ Nucis Vomiceæ ...	℥x.
Syrupi Aurantii ...	℥ss.
Aquæ Anethi ...	q.s. ad ℥i.

Fiat Mistura. S. Two table spoonfuls to be taken three times a day.

A combination of diffusible stimulants is also of service during emergencies :—

℞ Spiritus Ætheris ...	℥ss.
Spiritus Ammoniaë Aromatici ...	℥ss.
Tincturæ Zingiberis ...	℥i.
Aquæ ...	q.s. ad ℥ss.

Fiat Mistura. S. One table spoonful to be taken when required.

ANGINA PECTORIS.

If the pulse tension is increased during the paroxysm give :—

℞ Amyl Nitritis ...	℥v.
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Pone in capsulam vitream. S. The capsule to be broken and the vapour inhaled.

Or,

℞ Liquoris Trinitrini ...	℥ii.—iv.
Tincturæ Cardamomi Compositæ ...	℥ss.
Aquæ... ...	q.s. ad ℥ss.

Fiat Mistura. S. One table spoonful to be taken at once.

If there is no evidence of increased arterial tone and the symptoms point to cardiac embarrassment only, give :—

℞ Liquoris Strychninæ Hydrochloridi	℥iii.—iv.
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Fiat Injectio. S. To be given at once.

Or,

℞ Spiritus Ætheris ...	℥ss.
Spiritus Ammoniaë Aromatici ...	℥ss.
Tincturæ Cardamomi Compositæ ...	℥i.
Aquæ... ...	q.s. ad ℥ss.

Fiat Mistura. S. One table spoonful to be given at once and repeated if necessary.

If these measures fail to bring relief give :—

℞ Injectionis Morphinae Hypodermicæ ℥iii.—iv.
 Injectionis Atropinae Hypodermicæ ℥ii.—iv.
 Fiat Injectio. S. To be given at once.

The strength of the Injectio Atropinae Hypodermicæ is so arranged that each minim represents gr. $\frac{1}{240}$ of Atropine Sulphate.

The following prescriptions are of service between the paroxysms :—

℞ Potassii Iodidi gr. v.—x.
 Liquoris Arsenicalis ℥iii.
 Tincturæ Cardamomi Compositæ ... ʒi.
 Aquæ Chloroformi q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

℞ Tincturæ Strophanthi ℥x.
 Liquoris Trinitrini ℥i.
 Tincturæ Cardamomi Compositæ
 q.s. ad ʒi.

Fiat Mistura. S. One teaspoonful to be taken in a wine-glassful of water three times a day.

℞ Phosphori gr. $\frac{1}{60}$.
 Strychninae Sulphatis gr. $\frac{1}{60}$.
 Olei Theobromatis q.s.

Fiat Pilula. Cover with sandarach solution (Extra Pharmacopœia). S. One to be taken three times a day.

℞ Erythrol Tetranitratis gr. $\frac{1}{4}$.
 Pastæ Theobromatis q.s.

Fiat Tabella. S. One to be taken three times a day.

FUNCTIONAL AFFECTIONS OF THE HEART.

Paroxysmal attacks of palpitation, pain, cardiac irregularity of functional origin, are usually relieved by half-drachm doses of the compound spirits of ether, or the following combination may be given :—

R̄	Spiritus Ætheris ...	...	...	3ss.
	Spiritus Ammoniaë Aromatici ...	...	...	3ss.
	Spiritus Camphoræ ...	...	...	℥xv.
	Tincturæ Cardamomi Compositæ			
			q.s. ad	3ii.

Fiat Mistura. S. Two teaspoonfuls to be taken in a little water every quarter of an hour until the attack is relieved.

Or,

R̄	Tincturæ Valerianæ Ammoniatæ			3i.
	Tincturæ Lavandulæ Compositæ			3ss.
	Spiritus Vini Rectificati ...	...	...	3i.
	Aquæ Chloroformi ...	...	q.s. ad	3ss.

Fiat Mistura. S. One tablespoonful to be taken every two or three hours.

The treatment between the attacks should be directed to the removal of the cause of the cardiac disturbance. The following prescriptions illustrate some of the combinations of drugs used in the treatment of functional affections of the heart.

R̄	Tincturæ Strophanthi ...	...	...	℥x.
	Tincturæ Belladonnæ ...	...	...	℥iii.
	Ammonii Bromidi ...	...	...	gr. viii.
	Syrupi Pruni Virginianæ ...	...	...	3ss.
	Aquæ Menthæ Piperitæ ...	...	q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Potassii Iodidi ...	...	...	gr. v.
	Sodii Salicylatis ...	...	...	gr. xv.
	Tincturæ Nucis Vomicae ...	...	...	℥viii.
	Syrupi Aurantii ...	...	...	3ss.
	Aquæ Cinnamomi ...	...	q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Tincturæ Belladonnæ ...	...	...	℥iv.
	Tincturæ Cacti Grandiflori ...	...	...	℥viii.
	Tincturæ Strophanthi ...	...	...	℥viii.
	Tincturæ Gentianæ Compositæ ...	...	...	3ss.
	Aquæ Caryophilli ...	...	q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Zinci Valerianatis	...	...	gr. i.
	Quininæ Valerianatis	...	...	gr. i.
	Ferri Valerianatis	...	...	gr. i.
	Ammonii Valerianatis	...	...	gr. i.
	Extracti Gentianæ	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

R̄	Tincturæ Aconiti	...	...	℥i.
	Tincturæ Digitalis	...	...	℥ii.
	Tincturæ Belladonnæ	...	...	℥ii.
	Spiritus Chloroformi	...	...	℥v.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every six hours.

R̄	Extracti Belladonnæ	...	...	gr. ½.
	Magnesiae	...	...	gr. x.

Fiat Tabella. S. One or two tablets to be taken half an hour before meals.

Lauder Brunton recommends the following combination in functional palpitation with dyspepsia.

R̄	Bismuthi Carbonatis	...	...
	Sodii Bicarbonatis	...	āā	gr. x.
	Spiritus Chloroformi	...	...	℥x.
	Aquæ Cinnamomi vel	...	...
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura.

R̄	Pulveris Nucis Vomicæ	...	...	gr. ss.—iii.
	Pulveris Rhei	...	...	gr. ss.—x.

Fiat Pulvis. Pone in cachetam. S. One cachet to be taken with two tablespoonfuls of the mixture three times a day before food.

DISEASES OF THE BLOOD VESSELS.

Drugs play but a small part in the treatment of diseases of the blood vessels; indeed, with the exception of potassium iodide, the action of medicinal agents in these affections hardly calls for notice. Iodide of potassium is undoubtedly of service in

the treatment of phlebitis, and also of atheroma and aneurysm.

The following combination may be employed with advantage in phlebitis:—

R̄	Ammonii Carbonatis	...	...	gr. iv.
	Spiritus Ammoniae Aromatici	...	...	℥ss.
	Tincturae Hamamelidis	...	...	℥ss.
	Potassii Iodidi	...	...	gr. v.
	Glycerini	...	...	℥i.
	Aquæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

In the treatment of aneurysm, iodide of potassium must be given in full doses. For instance:—

R̄	Potassii Iodidi	...	...	gr. x.—xx.
	Syrupi Hemidesmi	...	...	℥ss.
	Liquoris Sarsæ Compositi Concentrati	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

Calcium chloride has also been given with apparent success in the treatment of aneurysm.

R̄	Calcii Chloridi	...	...	gr. xv.
	Extracti Glycyrrhizæ Liquidi	...	...	℥ss.
	Glycerini	...	...	℥i.
	Aquæ Destillatæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

E. H. C.

CHAPTER III.

RESPIRATORY SYSTEM.

THE commoner diseases which will be dealt with under this heading may be arranged as follows:—

Larynx	...	...	Laryngitis.
Trachea and Bronchi			{ Bronchitis (Acute and Chronic).
			{ Bronchiectasis.
Lungs	...	...	{ Phthisis Pulmonalis.
			{ Pneumonia.
			{ Gangrene.
Pleura	...	...	Pleuritis.
Nervous affections			Asthma.

LARYNGITIS.

This disease may be treated locally by means of vapours, insufflations, and sprays.

As examples of vapours we may give:—

℞ Tincturæ Benzoini Compositæ ... ℥i.

Fiat Tinctura. S. One teaspoonful to be put in a pint of boiling water and let the steam be inhaled frequently.

℞ Olei Eucalypti m℥.

Magnesii Carbonatis Levis gr. iii.

Aquæ Destillatæ q.s. ad ℥i.

Fiat Mistura. S. One teaspoonful to be put in a pint of boiling water and the steam inhaled.

R	Terebeni	...	...	...	...	℥v.
	Magnesiæ Carbonatis Levis	...	...	...	...	gr. iii.
	Aquæ Destillatæ	...	...	...	...	℥i.

Fiat Mistura. S. One teaspoonful to be put in a pint of boiling water and the steam inhaled.

It may be pointed out that the introduction of the light carbonate of magnesia is to suspend the oil.

The following are examples of insufflations :—

R	Iodoformi	}	...	āā	gr. i.
	Acidi Borici				
	Bismuthi Oxychloridi				

Fiat Insufflatio. S. The powder to be used occasionally.

Or,

R	Morphinæ Hydrochloridi	...	...	gr. $\frac{1}{2}$.
	Bismuthi Oxychloridi	...	...	gr. i.
	Amyli	gr. $\frac{1}{2}$.

Fiat Insufflatio. S. To be used occasionally.

Or,

R	Orthoformi	gr. ii.
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Fiat Insufflatio. S. To be used occasionally.

Sprays are also of the greatest use in the treatment of laryngitis. For example :

R	Acidi Carbolici	...	...	gr. iii.
	Aquæ Destillatæ	...	...	℥i.

Fiat Nebula. S. To be used as occasion requires.

Or,

R	Glycerini Acidi Tannici	...	...	℥i.
	Aquæ Destillatæ	...	...	℥i.

Fiat Nebula. S. To be used occasionally.

Or,

R	Sodii Bicarbonatis	...	...	gr. xv.
	Sodii Chloridi	...	...	gr. x.
	Glycerini Boracis	...	...	℥iss.
	Glycerini Acidi Carbolici	...	...	℥ss.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Nebula. S. To be used occasionally.

These three formulæ may be used in treating chronic laryngitis requiring a stimulating form of medicament.

As an example of a spray containing cocaine the following will serve :—

℞	Cocainæ Hydrochloridi	...	...	gr. x.
	Thymol	...	...	gr. $\frac{1}{2}$.
	Aquæ	...	...	℥i.
	Fiat Nebula. S. To be used as directed.			

BRONCHITIS.

In giving formulæ for the treatment of bronchitis it will be necessary to divide the subject under two headings, viz., prescriptions suitable for the treatment of acute bronchitis, and those for chronic bronchitis. When bronchitis is acute, as evidenced by absence of expectoration, or at most thin mucus, a small rapid pulse, lividity and dyspnœa, the indication is to loosen and liquify the expectoration by means of expectorant drugs which act as sedatives and depressants. Of these the most important are antimony, ipecacuanha and the alkalies. The following combinations illustrate the method of using these remedies:—

℞	Vini Antimonialis	...	...	℥xx.
	Potassii Nitratis	...	...	gr. x.
	Spiritus Ætheris Nitrosi	...	...	℥ss.
	Liquoris Ammonii Acetatis	...	...	℥ii.
	Syrupi Aurantii	...	...	℥iss.
	Aquæ Camphoræ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

Or,

℞	Liquoris Ammonii Acetatis	...	...	℥ii.
	Vini Ipecacuanhæ	...	...	℥x.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ Camphoræ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

At the same time a purgative should be administered :—

℞ Pilulæ Hydrargyri gr. v.
Fiat Pilula. S. One to be taken occasionally.

When the acute stages of the disease have passed off, as shown by abundant and free expectoration, the treatment must be changed to a more stimulating one in order to promote the expectoration of the remaining products of the inflammation.

There is often a transitional stage in the attack, when one hesitates to use the purely stimulating expectorants. In this event either of the following formulæ are suitable :—

℞ Vini Antimonialis ℥xv.
Ammonii Chloridi gr. vii.
Spiritus Chloroformi ℥x.
Syrupi Aurantii ℥i.
Aquæ Camphoræ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞ Ammonii Carbonatis gr. v.
Vini Ipecacuanhæ ℥x.
Syrupi Aurantii ℥i.
Aquæ Camphoræ q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

When the attack is purely chronic, attended with profuse expectoration, the time has arrived for the exhibition of the stimulating expectorants. The following are examples of combinations of these drugs :—

R _x	Ammonii Carbonatis	...	...	gr. v.
	Spiritus Chloroformi	...	...	℥xv.
	Tincturæ Nucis Vomicae	...	...	℥iv.
	Infusi Caryophylli	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

R _x	Aceti Scillæ	...	...	℥xx.
	Tincturæ Camphoræ Compositæ	...	...	℥xx.
	Infusi Cascarillæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

R _x	Potassii Iodidi	...	...	gr. iv.
	Potassii Bicarbonatis	...	...	gr. xv.
	Ammonii Carbonatis	...	...	gr. iii.
	Aquæ Camphoræ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Another good combination in the treatment of chronic bronchitis is:—

R _x	Vini Ipecacuanhæ	...	...	℥x.
	Tincturæ Opii	...	...	℥v.
	Potassii Nitratis	...	...	gr. v.
	Extracti Glycyrrhizæ Liquidi	...	...	℥ss.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

In conjunction with internal treatment a stimulating liniment, such as the linimentum terebinthinæ aceticum, should be rubbed into the chest every night.

When Emphysema is the prominent condition in association with Bronchitis, the same formulæ may be used. But the nutrition of the patient is often improved, by the administration of Cod Liver Oil.

BRONCHIECTASIS.

This condition cannot be treated with any measure of success by means of drugs. The fœtor, however, may be controlled to a certain extent by means of instillations placed upon a piece of sponge in an ordinary respirator. Examples of these preparations are:—

℞	Thymol	...	...	...	gr. ii.
	Camphoræ	...	...	...	gr. ii.
	Acidi Carbolicæ	...	...	...	℥ii.
	Spiritus Rectificati	...	...	...	℥xx.

Fiat Instillatio. S. A few drops to be put on a sponge and the vapour inhaled.

Or,

℞	Olei Pini				
	Alcohol Absoluti	|	...	aa	3i.

Fiat Instillatio. S. A few drops to be put on a sponge and the vapour to be inhaled.

Or,

℞	Iodoformi	...	...	...	gr. i.
	Olei Eucalypti	...	...	...	℥x.
	Spiritus Rectificati	...	...	...	℥x.

Fiat Instillatio. S. A few drops on a sponge and the vapour to be inhaled.

A mixture containing aromatic balsams may also be given:—

℞	Tincturæ Benzoini Compositæ	{	aa	℥xx.
	Tincturæ Tolutanæ			
	Tincturæ Camphoræ Compositæ			
	Misturæ Amygdalæ			
		...	q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

PHTHISIS PULMONALIS.

In indicating suitable formulæ to be used in the treatment of phthisis, it is not proposed to deal with the enormous number of remedies which from time

to time have been vaunted as specifics in this disease. Our aim will be rather to give examples of various prescriptions which may be administered with the object of improving the nutrition of the patient, and of such drugs which are used for the treatment of special conditions.

The following combinations are examples of the use of tonics, &c.:—

℞	Acidi Phosphorici Diluti...	...	℥vii.
	Tincturæ Nucis Vomicae ...	...	℥v.
	Spiritus Chloroformi ...	...	℥xv.
	Infusi Quassiae ...	q.s. ad	℥i.

Fiat Mistura S. Two tablespoonfuls to be taken three times a day.

℞	Quininæ Sulphatis...	...	gr. i.
	Ferri Sulphatis ...	...	gr. i.
	Liquoris Strychninæ Hydrochloridi	...	℥iii.
	Acidi Sulphurici Diluti ...	...	℥v.
	Syrupi Simplicis ...	...	℥i.
	Infusi Calumbæ ...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Sodii Bicarbonatis...	...	gr. xv.
	Spiritus Ammoniae Aromatici ...	...	℥xx.
	Tincturæ Nucis Vomicae ...	...	℥iii.
	Spiritus Chloroformi ...	...	℥xv.
	Infusi Gentianæ Compositi	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Creosote is frequently prescribed, and it may be given with cod-liver oil.

℞	Olei Morrhuae ...	...	℥ii.
	Creosoti ...	...	℥iii. ad ℥x.

Fiat Mistura. S. Two teaspoonfuls to be taken twice or three times a day.

A suitable formula for prescribing creosote in mixture is:—

R̄	Creosoti	...	...	...	℥iii. ad ℥x.
	Spiritus Rectificati	...	...	...	℥xv.
	Tincturæ Gentianæ Compositæ	...	...	...	℥xv.
	Extracti Glycyrrhizæ Liquidī	...	...	...	℥xxx.
	Aquæ	...	...	...	s.q. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Hypophosphites are also frequently prescribed either singly or in combination.

R̄	Sodii Hypophosphitis	...	...	gr. v.
	Calcii Hypophosphitis	...	...	gr. v.
	Ferri Hypophosphitis	...	...	gr. ii.
	Sodii Bicarbonatis	...	...	gr. v.
	Spiritus Chloroformi	...	...	℥xv.
	Aquæ Camphoræ	...	...	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The famous pill of Niemeyer is useful in cases of tuberculosis attended with fever, much cough and sweating. The following is the formula:—

R̄	Quininæ Sulphatis	...	...	gr. i.
	Pulveris Digitalis...	...	...	gr. $\frac{1}{2}$.
	Pulveris Opīi	...	...	gr. $\frac{1}{4}$.
	Confectionis Rosæ Gallicæ	...	...	q.s.

Fiat Pilula. S. One pill to be taken three or four times a day.

Night sweating in phthisis may be controlled by the following drugs:—

R̄	Zinci Oxidi	...	...	gr. v.
	Confectionis Rosæ Gallicæ	...	...	q.s.

Fiat Pilula. S. One pill to be taken every night.

Or,

R̄	Atropinæ Sulphatis	...	...	gr. $\frac{1}{100}$.
	Glucosi	...	...	q.s.

Fiat Pilula. S. One pill to be taken at bed time.

Or,

R _x	Atropinæ Sulphatis	...	...	gr. $\frac{1}{100}$.
	Morphinæ Hydrochloridi...	...	...	gr. $\frac{1}{8}$.
	Pilulæ Aloes et Myrrhæ	...	...	gr. iii.

Fiat Pilula. S. One pill to be taken at bed time.

Hæmoptysis.—In this complication the various styptic preparations given under the heading “Hæmatemesis” may be prescribed, such as gallic or tannic acid, lead and opium. It is a useful practice to give a hypodermic injection of morphia (gr. $\frac{1}{8}$ — $\frac{1}{4}$) to allay the excitement and distress. A mixture which acts well is:—

R _x	Magnesii Sulphatis	...	...	3i.
	Liquoris Morphinæ Hydrochloridi	...	...	℥vii.
	Extracti Glycyrrhizæ Liquidi	...	...	℥xx.
	Infusi Rosæ Acidi	...	q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three or four times a day.

Turpentine may also be prescribed as follows:—

R _x	Terebeni	...	...	...	℥x.
	Mucilaginis Tragacanthæ	}	aa		3i.
	Glycerini				
	Aquæ Cinnamomi	...	q.s. ad		3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Among other drugs that have been tried may be mentioned calcium chloride in five-grain doses, ergot by mouth or by hypodermic injection, and hamamelis.

Cough in phthisis sometimes calls for special treatment when very troublesome. A useful formula for a pill is:—

R _x	Pulveris Guaiaci	...	...	gr. i.
	Pulveris Ipecacuanhæ	...	...	gr. $\frac{1}{2}$.
	Pulveris Opii	...	...	gr. $\frac{1}{8}$.
	Pilulæ Scillæ Compositæ	...	...	gr. iii.

Fiat Pilula. S. One pill to be taken at bed time.

A simple but effective remedy for cough is:—

℞ Glycerini 3ss.
 Lactis 3iiss.
 Fiat Mistura. S. To be sipped occasionally.

Another well-known formula is:—

℞ Liquoris Morphinae Hydrochloridi ℥iii.
 Spiritus Chloroformi ℥iii.
 Glycerini } ... q.s. āā ad 3ss.
 Aquæ }

Fiat Mistura. S. One teaspoonful to be taken occasionally.

Or,

℞ Tincturae Camphorae Compositae } āā 3ss.
 Extracti Glycyrrhizae Liquidi }
 Aquæ 3i.

Fiat Linctus. S. Two teaspoonfuls to be taken occasionally.

Codeine in doses of one eighth of a grain is also very useful in obstinate cough.

ACUTE PNEUMONIA.

The usual treatment is more or less expectant. A diaphoretic mixture is usually prescribed at first, and this may be followed by stimulating expectorants when free expectoration is established, and finally tonics should be administered. As an example of the first indication:—

℞ Potassii Nitratis gr. x.
 Spiritus Ætheris Nitrosi ℥xx.
 Liquoris Ammonii Acetatis ... 3ii.
 Tincturae Aurantii ℥xx.
 Aquæ Camphoræ... .. q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

For an expectorant mixture the reader is referred to those given under the head of bronchitis. Digitalis and strophantus may also be prescribed to strengthen the action of the heart.

GANGRENE OF THE LUNG.

This condition does not call for much comment, The treatment consists in the exhibition of stimulating expectorants, tonics and antiseptics. Formulæ subserving these indications will be found in the sections dealing with bronchiectasis, bronchitis or phthisis.

PLEURISY.

The treatment of this disease by means of drugs does not require any lengthy description. The saline diaphoretic prescriptions to be found under the headings bronchitis and pneumonia may be given. A formula frequently used is:—

R̄	Potassii Iodidi	...	...	gr. v. ad x.
	Quininæ Sulphatis	...	...	gr. i.
	Acidi Sulphurici Diluti	...	...	℥v.
	Tincturæ Aurantii...	...	...	℥xx.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Syrupus ferri iodidi is also very much favoured and may be prescribed as follows:—

R̄	Syrupi Ferri Iodidi	...	...	℥xl.
	Syrupi Limonis	...	...	℥i.
	Aquæ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

For the external treatment liniments to be rubbed into the chest are generally prescribed, such as linimentum terebinthinæ aceticum, linimentum belladonnæ, linimentum iodi, linimentum camphoræ and blisters.

ASTHMA.

In the treatment of this disease there is considerable scope for the exhibition of drugs, and many formulæ are held in high estimation on account of the influence they exert in relieving the most distressing symptoms.

The attack of asthma may be treated by either inhalations, injections or fumigations.

Inhalations.—First among these is chloroform, which may be inhaled from a piece of lint during the attack: but this should be done only under the immediate supervision of the physician.

Capsules of nitrite of amyl may be broken and the vapour inhaled. The capsules should contain two or three drops of the drug.

Iodide of ethyl is another remedy which is useful in some cases. Ten drops may be inhaled every four hours.

Injections are of use in the attack. A hypodermic injection of morphia is often of great service in relieving the paroxysm.

℞ Injectionis Morphinæ Hypodermicæ miii.—v.
Fiat Injectio. S. To be injected beneath the skin.

Hydrochlorate of apomorphine gr. $\frac{1}{20}$ and sulphate of atropine gr. $\frac{1}{20}$ have been used with beneficial results in some cases.

Fumigations.—Most of these are composed of either nitrate of potash, belladonna, or stramonium; for example:—

℞ Potassii Nitratis ʒi.
Aquæ q.s. ad ʒi.

Fiat Solutio. S. White blotting paper should be soaked in this solution and when dry be cut into strips and burnt when the attack comes on.

In order to make the paper burn with more vigour chlorate of potash may be added. Thus:—

R̄	Potassii Nitratis	...	...	...	gr. x.
	Potassii Chloratis	...	...	...	gr. xv.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Prepare as before.

Potassium iodide is also sometimes added in a strength of 10 grains.

Another very good fumigation is the following:—

R̄	Extracti Stramonii	...	...	gr. xxx.
	Potassii Chloratis	...	...	gr. xx.
	Aquæ Calidæ	...	q.s. ad	℥i.

Fiat Solutio. S. Prepare as before.

An excellent formula for a fumigation which rarely fails to relieve is—

R̄	Pulveris Belladonnæ Foliorum	}	aa gr. xxx.
	Pulveris Hyoscyami Foliorum		
	Pulveris Stramonii Foliorum		
	Potassii Nitratis		

Fiat Pulvis. S. Half a drachm to be ignited for each inhalation.

Tobacco leaves, digitalis leaves and green tea have also been used with good effect.

During the attack citrate of caffeine will sometimes give relief. It may be given in doses of two grains every two hours.

In the general treatment of asthma many drugs which have an antispasmodic effect are prescribed together with depressant and sedative remedies:—

R̄	Potassii Iodidi	...	...	gr. v.
	Tincturæ Stramonii	...	...	℥xv.
	Spiritus Ammoniae Aromatici	...	...	℥xx.
	Spiritus Chloroformi	...	...	℥xx.
	Infusi Gentianæ Compositi	q.s. ad	℥i.	

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞	Tincturæ Lobeliæ Æthereæ	...	...	℥xv.
	Potassii Iodidi	...	...	gr. v.
	Spiritus Ammoniaë Aromatici	...	...	℥xx.
	Aquæ Camphoræ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞	Tincturæ Sumbul	...	...	℥xv.
	Tincturæ Stramonii	...	...	℥x.
	Tincturæ Belladonnæ	...	...	℥v.
	Spiritus Chloroformi	...	...	℥xx.
	Aquæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Arsenic has a good effect in some cases and may be given thus:

℞	Liquoris Arsenicalis	...	...	℥iii.
	Spiritus Ammoniaë Aromatici	...	...	℥xx.
	Ferri et Ammonii Citratis	...	...	gr. v.
	Syrupi Aurantii	...	...	℥i.
	Aquæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

A. C.

CHAPTER IV.

NERVOUS SYSTEM.

It can hardly be said that the medicinal treatment of organic affections of the nervous system afford much scope for fresh illustrations of the methods and formulæ employed in prescribing drugs. We shall, therefore, deal solely with the so-called functional nervous disorders, which will be considered under the following arrangement :—

- (1) Sensori-motor neuroses.
- (2) Motor neuroses.
- (3) Trophoneuroses.
- (4) Diseases of the peripheral and sensory neurones.

(1) SENSORI-MOTOR NEUROSES.

Epilepsy.—The only drug likely to prove of service in the treatment of the attack is nitrite of amyl, which should be exhibited in the manner previously indicated (see p. 100). Chloroform is sometimes employed, but the use of this drug in the treatment of the epileptic attack is not free from danger.

Between the attacks a large variety of drugs are available. The following formulæ represent the medicinal combinations which are commonly used in the treatment of the disease :—

℞	Potassii Bromidi	...	...	...	gr. x.—xx.
	Liquoris Arsenicalis	...	...	...	℥iii.
	Tincturæ Cardamomi Compositæ	...	...	...	℥ss.
	Syrupi Aurantii	...	...	...	℥ss.
	Aquæ	...	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

It has been found clinically that a combination of bromides frequently acts more efficaciously than any one of the salts alone, or the same salts given successively. Thus:—

℞	Ammonii Bromidi	}	...	āā	gr. v.
	Potassii Bromidi				
	Sodii Bromidi				
	Syrupi Aurantii	...	...	...	℥i.
	Aquæ Camphoræ	...	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞	Potassii Bromidi	...	...	...	gr. x.
	Tincturæ Belladonnæ	...	...	...	℥v.—x
	Syrupi Aurantii	...	...	...	℥i.
	Aquæ Camphoræ	...	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞	Ammonii Bromidi	...	...	...	gr. xv.
	Phenazoni	...	...	...	gr. v.
	Liquoris Arsenicalis	...	...	...	℥iii.
	Elixiris Simplicis	...	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞	Potassii Bromidi	...	...	...	gr. x.
	Syrupi Aurantii	...	...	...	℥ss.
	Infusi Adonis Vernalis	...	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day after food.

R	Ammonii Bromidi	...	...	...	gr. xv.
	Tincturæ Digitalis	...	...	...	ʒviii.
	Syrupi Aurantii	...	...	...	ʒj.
	Aquæ Camphoræ	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

R	Ferri Bromidi	...	...	...	gr. iv.
	Potassii Bromidi	...	...	...	gr. x.
	Syrupi	...	...	...	ʒss.
	Aquæ...	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

R	Boracis	...	...	...	gr. xv.
	Syrupi Aurantii	...	...	...	ʒi.
	Aquæ...	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

R	Zinci Phosphidi	...	...	...	gr. $\frac{1}{20}$.
	Sacchari Lactis	}	...	...	q.s.
	Glucosi		...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day after food.

R	Extracti Cannabis Indicæ	...	...	...	gr. $\frac{1}{4}$.
	Lycopodii	...	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

R	Argenti Nitratis	...	...	...	gr. $\frac{1}{8}$.
	Unguenti Kaolini	...	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

R	Aurii et Sodii Chloridi	...	...	...	gr. $\frac{1}{10}$.
	Unguenti Kaolini	...	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

Iodide of potassium is useful in the treatment of syphilitic cases. Thus:—

R	Potassii Iodidi	...	...	...	gr. v.
	Potassii Bromidi	...	...	...	gr. v.
	Ammonii Bromidi	...	...	...	gr. v.
	Potassii Bicarbonatis	...	...	...	gr. xv.
	Syrupi Aurantii	...	...	...	ʒi.
	Aquæ Menthæ Piperitæ	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Migraine.—The following combinations are useful in the treatment of the paroxysm:—

R	Phenazoni	...	...	...	gr. v.—x.
	Caffeinæ Citratis	...	...	...	gr. iii.
	Camphoræ Monobromatæ	...	...	...	gr. i.

Fiat Pulvis. S. One powder to be taken every three or four hours.

R	Potassii Bromidi	...	...	...	gr. xx.
	Phenazoni	...	...	...	gr. v.
	Syrupi Aurantii	...	...	...	ʒi.
	Aquæ Camphoræ	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken at once, and repeated in an hour if necessary.

R	Caffeinæ Citratis	...	...	...	gr. iii.
	Ammonii Carbonatis	...	...	...	gr. iii.
	Elixiris Guaranæ (B.P.C.)	...	...	...	ʒi.

Fiat Mistura. S. One teaspoonful every hour.

R	Tincturæ Cannabis Indicæ	...	...	...	℥x.
	Tincturæ Gelsemii	...	...	...	℥x.
	Mucilaginis Acaciæ	...	...	...	ʒi.
	Syrupi	...	...	...	ʒi.
	Aquæ	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken every hour or two hours.

R	Ammonii Chloridi	...	...	...	gr. xx.
	Tincturæ Gelsemii	...	...	...	℥xv.
	Syrupi Aurantii	...	...	...	ʒi.
	Aquæ Cinnamomi	...	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken every two hours.

R	Caffeinæ Citratis Effervescentis	ʒi.
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Fiat Pulvis. S. One teaspoonful to be added to a wineglassful of water containing twenty grains (gr. xx.) of salicylate of soda, and the mixture to be taken every two hours.

Between the attacks discover, if possible, and treat the cause of the disorder. If the cause cannot be discovered, give:—

℞	Liquoris Arsenicalis	...	...	...	℥iii.
	Ammonii Bromidi	...	...	...	gr. v.
	Syrupi Aurantii	...	...	...	℥ss.
	Aquæ Camphoræ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Whitla recommends the accompanying pill (after Little):—

℞	Sodii Arsenatis	...	...	...	gr. $\frac{1}{12}$.
	Extracti Cannabis Indicæ	...	...	...	gr. $\frac{1}{8}$.
	Extracti Belladonnæ	...	...	...	gr. $\frac{1}{3}$.
	Zinci Valerianatis	...	...	...	gr. ii.

Misce. Fiat Pilula. S. One pill to be taken after breakfast and dinner.

℞	Potassii Iodidi	...	...	...	gr. iv.
	Ammonii Chloridi	...	...	...	gr. xv.
	Syrupi Aurantii	...	...	...	℥i.
	Aquæ Cinnamomi	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Phosphori	...	...	...	gr. $\frac{1}{30}$.
	Sevi	...	...	...	quantum sufficiat ut solvetur phosphor.
	Zinci Valerianatis	...	...	...	gr. ii.

Fiat Pilula. To be covered with sandarach solution. S. One pill to be taken three times a day.

℞	Potassii Iodidi	...	...	...	gr. v.
	Sodii Salicylatis	...	...	...	gr. xv.
	Syrupi Aurantii	...	...	...	℥i.
	Aquæ Menthæ Piperitæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Hysteria.—Drugs occupy a subsidiary position in the treatment of hysteria. The following prescription may be used in conjunction with other measures :—

℞	Tincturæ Valerianæ Ammoniatæ	...	...	3ss.-l.
	Tincturæ Hyoscyami	...	...	3i.
	Ammonii Bromidi	...	...	gr. xv.
	Aquæ Camphoræ	...	... q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Zinci Valerianatis	...	...	gr. i.
	Ferri Valerianatis	...	...	gr. i.
	Quininæ Valerianatis	...	...	gr. i.
	Extracti Gentianæ	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

℞	Tincturæ Asafetidæ	...	...	3ss.
	Tincturæ Valerianæ Ammoniatæ	...	...	3ss.
	Tincturæ Hyoscyami	...	...	3ss.
	Aquæ Camphoræ	...	... q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Liquoris Arsenicalis	...	...	℥iii.
	Ammonii Bromidi	...	...	gr. x.
	Extracti Ergotæ Liquidi	...	...	℥xx.
	Tincturæ Aurantii	...	...	3ss.
	Aquæ Cinnamomi	...	... q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞	Spiritus Ammonię Aromatici	...	...	3ss.
	Spiritus Lavandulæ	...	...	℥xv.
	Spiritus Ammonię Fetidi	...	...	3ss.
	Aquæ Menthæ Piperitæ	...	... q.s. ad	3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Neurasthenia.—The medical treatment of this somewhat ill-defined symptom-group is sometimes conducted on the lines indicated for the relief of hysteria. At others the exhibition of hæmatinics and general tonics is called for, as for instance:—

℞	Liquoris Arsenici Hydrochlorici	..	℥iii.
	Liquoris Strychninæ	...	℥iv.
	Tincturæ Cinchonæ Compositæ	...	℥ss.
	Tincturæ Cardamomi Compositæ	...	℥ss.
	Aquæ Menthæ Piperitæ	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞	Phosphori	...	...	gr. $\frac{1}{60}$.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{30}$.
	Zinci Valerianatis	...	...	gr. ii.
	Sevi	...	...	quantum sufficiat ut solvetur phosphor.

Fiat Pilula. Cover with sandarach solution. S. One pill to be taken three times a day.

℞	Quininæ Sulphatis	...	...	gr. ii.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{30}$.
	Ferri Sulphatis	...	...	gr. ii.
	Glucosi Liquidi	...	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day after meals.

℞	Sodii Hypophosphitis	...	...	gr. v.
	Calcii Hypophosphitis	...	...	gr. v.
	Ferri Hypophosphitis	...	...	gr. ii.
	Syrupi...	...	...	℥ii.
	Aquæ Fœniculi	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

MOTOR NEUROSES.

Chorea.—The most useful drug in the treatment of chorea is undoubtedly arsenic. It may be given as follows :—

℞	Liquoris Arsenicalis	...	...	℥iii.—x.
	Tincturæ Cardamomi Compositæ	...	...	℥ss.
	Tincturæ Aurantii	...	...	℥xv.
	Aquæ Anethi	...	... q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day after food.

The addition of iron is frequently advisable.
Thus:—

℞	Tincturæ Ferri Perchloridi...	...	...	℥v.
	Liquoris Arsenici Hydrochlorici	...	...	℥iii.—x.
	Glycerini	...	...	℥i.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day after food.

The following drugs may be tried in the event of the failure of arsenic to cure the disease.

℞	Zinci Sulphatis	...	...	gr. i.—viii.
	Syrupi Zingiberis	...	...	℥ss.—i.
	Aquæ Cinnamomi	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful three times a day after food.

℞	Extracti Cimicifugæ Liquidi	...	...	℥xx.—xxx.
	Elixiris Simplicis	...	...	℥i.
	Aquæ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

In rheumatic cases the following combination may be used:—

℞	Potassii Iodidi	...	...	gr. ii.—iv.
	Sodii Salicylatis	...	...	gr. v.—x.
	Syrupi Aurantii	...	...	℥i.
	Aquæ Cinnamomi	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day after food.

Sleeplessness and extreme restlessness may be met by a combination such as the following:—

℞	Chloral Hydratis	...	...	gr. v.
	Sodii Bromidi	...	...	gr. v.—x.
	Syrupi Pruni Virginianæ	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every four or six hours as required.

Chloralamide is also useful in the treatment of these conditions.

℞ Chloralamidi	...	...	gr. v.—xv.
Tincturæ Aurantii	...	...	℥xx.
Syrupi Aurantii	...	...	℥ss.
Aquæ	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken at night or when required.

TROPHONEUROSES.

Raynaud's Disease.—Drugs are usually of little service in the treatment of this condition. The underlying cause, if discoverable, should be combated by appropriate means. Hæmatinics and tonics are sometimes useful.

℞ Tincturæ Ferri Perchloridi	...	℥xv.
Quininæ Sulphatis	...	gr. ii.
Liquoris Strychninæ	...	℥iv.
Syrupi Aurantii	...	℥i.
Aquæ Menthæ Piperitæ	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

DISEASES OF THE PERIPHERAL SENSORY AND MOTOR NEURONES.

Neuralgias and neuritis are the lesions which will be considered under this head. For practical purposes the treatment of the two conditions is practically identical. In all cases it is essential that the cause of the disorder should be discovered, and combated by appropriate remedies. We shall take it for granted that the reader is now familiar with the methods of combining drugs which are called for in the treatment of the chief exciting causes of neuralgia, viz., anæmia, rheumatism,

gout, syphilis, &c. The immediate relief of pain may be effected by the hypodermic administration of morphia, cocaine, &c.

℞ Injectionis Morphinæ Hypodermicæ ℥iii.—x.
Fiat Injectio. S. To be injected near the seat of pain.

℞ Injectionis Cocainæ Hypodermicæ ℥ii.—v.
Fiat Injectio. S. To be injected near the seat of pain.

As a rule it is wiser to hold these drugs in reserve pending the use of other drugs for the relief of pain. One or other of the following combinations may be employed for this purpose.

℞ Phenazoni gr. v.—x.
Caffeinæ Citratis gr. ii.—iv.

Misce. Fiat in capsulam vel chartulam. S. One capsule or paper to be taken every half hour until the pain is relieved.

℞ Phenazoni gr. v.—x.
Caffeinæ Citratis gr. ii.
Potassii Bromidi gr. x.

Misce. Fiat in capsulam vel chartulam. S. One capsule or paper to be taken every half hour until the pain is relieved.

Acetanilide (gr. i.—ii.) or phenacetin (gr. v.—x.) may be substituted for the phenazonum in the foregoing formulæ. Salol (gr. x.) may also be used in combination with one or other of these drugs.

The action of these remedies may be supplemented by the local application of anodynes, counter-irritants Thus:—

℞ Menthol ʒss.
Alcohol vel Eau de Cologne ... ʒi.

Fiat Pigmentum. S. To be painted or rubbed along the painful part.

R	Thymol	...	...	...	...	℥i.
	Camphoræ	...	...	...	...	℥i.
	Eau de Cologne	...	...	q.s. ad	...	℥i.

Fiat Pigmentum. S. To be painted over the painful part. *

Whitla recommends the use of the following paint :—

R	Olei Caryophylli	...	...	...	...	℥iv.
	Olei Menthæ Piperitæ	...	...	...	...	℥vi.
	Chloroformi Purificati	...	...	...	...	℥ii.
	Linimenti Aconiti	...	...	...	...	℥iv.

Misce. S. To be painted over the painful part.

Friction with a liniment such as the following is a useful means of relieving pain :—

R	Linimenti Opii	}	...	āā	℥i.
	Linimenti Belladonnæ				

Fiat Linimentum. S. To be rubbed into the painful part.

The addition of chloroform (℥ss.) to the foregoing liniment is frequently advantageous. The preparation can then be sprinkled on a hot fomentation, and applied to the skin. Counter-irritation may be accomplished by means of :—

R	Liquoris Iodi Fortis	}	...	āā	℥ss.
	Tincturæ Iodi				

Fiat Pigmentum. S. To be painted over the painful part.

R	Liquoris Epispastici	℥ss.
---	----------------------	-----	-----	-----	------

Fiat Pigmentum. S. To be painted over the painful part.
The resulting blister to be carefully dressed.

R	Emplastri Cantharidis	2 × 2
---	-----------------------	-----	-----	-------

Fiat Emplastrum. S. To be applied over the seat of pain.
The resulting blister to be carefully dressed.

If the measures so far advocated fail to bring relief, or if, in spite of their employment, there is a recurrence of the symptoms, the physician will be constrained to fall back on empirical

treatment, which consists in the exhibition of anti-neuralgic remedies, the *modus operandi* of which is at present in doubt. Under these circumstances the following combinations will be found of service :—

℞	Ammonii Chloridi ...	...	gr. xv.
	Tincturæ Gelsemii ...	...	℥ xv.
	Syrupi Aurantii ...	...	ʒi.
	Aquæ Cinnamomi ...	... q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

The tincture of gelsemium is especially useful in the treatment of neuralgic affections of the dental branches of the fifth nerve. For other forms of facial neuralgia butyl-chloral hydrate is usually of service :—

℞	Butyl-Chloral Hydratis ...	...	gr. v.
	Pulveris Tragacanthæ Compositi	}	āā q.s.
	Syrupi		

Fiat Pilula. S. One pill to be taken every hour for three doses and then every three or four hours as required.

Quinine may frequently be given with advantage, more especially in neuralgia of malarial origin. It may be administered in solution or powder in five-grain doses, or the following combination may be tried :—

℞	Quininæ Sulphatis ...	...	gr. v.
	Morphinæ Sulphatis	...	gr. $\frac{1}{10}$.
	Strychninæ Sulphatis	...	gr. $\frac{1}{120}$.

Fiat Pulvis. Mitte in chartulam. S. One paper to be taken every two hours for three doses, and then every six hours.

A combination of strychnine, cannabis indica and atropine is useful in neuralgia presenting the characters of migraine.

℞	Atropinæ Sulphatis	...	...	gr. $\frac{1}{120}$.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{120}$.
	Extracti Cannabis Indicæ	...	...	gr. $\frac{1}{3}$.

Fiat Pilula. S. One pill to be taken every three or four hours until dryness of the mouth, or dilatation of the pupils supervenes.

Whitla speaks well of the following combination in the treatment of visceral neuralgia.

℞	Extracti Belladonnæ Viridis	...	gr. $\frac{1}{3}$.
	Ferri Arsenatis	...	gr. $\frac{1}{12}$.
	Codeinæ	...	gr. $\frac{1}{6}$.
	Acetanilidi	...	gr. iiii.

Fiat Pilula. S. One pill to be taken three times a day.

Or,

℞	Extracti Nucis Vomicæ	...	gr. $\frac{1}{3}$.
	Codeinæ	...	gr. $\frac{1}{2}$.

Fiat Pilula. S. One pill to be taken three or four times a day.

The treatment of neuralgia between the attacks should be, as before stated, directed to the removal of the cause, and to this end the following combination, amongst others, will be found of service in suitable cases.

℞	Tincturæ Ferri Perchloridi	...	℥xv.
	Quininæ Sulphatis	...	gr. ii.
	Liquoris Arsenici Hydrochlorici	...	℥iii.
	Glycerini	...	℥i.
	Aquæ Camphoræ	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

This prescription may be employed in conditions of anæmia and general want of tone. The tincture of the perchloride of iron acts as an excellent solvent for the sulphate of quinine, and the liquor arsenici hydrochlorici is a suitable preparation for prescribing with this salt of iron.

A combination which is spoken well of by many American physicians in the treatment of neuralgia associated with rheumatism and anæmia is the following :—

℞	Sodii Salicylatis	..	...	gr. xv.
	Tincturæ Ferri Perchloridi	...	...	gr. xv.
	Olei Gaultheriæ (Methyl Salicylate)	...	...	mi.
	Acidi Citrici...	...	...	gr. $\frac{3}{4}$.
	Liquoris Ammonii Citratis	...	...	ʒi.
	Glycerini	...	...	ʒi.

Fiat Mistura. S. Two teaspoonfuls to be taken in water three times a day.

Salicylate of soda and iodide of potassium are also of service in rheumatic or gouty cases.

℞	Sodii Salicylatis	...	...	gr. xv.
	Potassii Iodidi	...	...	gr. v.
	Potassii Bicarbonatis	...	...	gr. xv.
	Syrupi Aurantii	...	...	ʒi.
	Aquæ Menthæ Piperitæ	...	q.s. ad	ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

Half drachm doses of the tincture of cimicifuga may sometimes be substituted for the salicylate of soda with advantage.

Phosphorus is also an extremely useful drug in the treatment of the neuralgias of purely nervous origin. The drug may be combined with sulphate of strychnine or with valerianate of zinc.

℞	Phosphori	...	...	gr. $\frac{1}{30}$.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{30}$.
	Zinci Valerianatis	...	...	gr. ii.
	Sevi	...	...	q.s. ut solvetur phosphor.

Fiat Pilula. Cover with sandarach solution. S. One pill to be taken three times a day after food.

The hypophosphites are sometimes employed

with success, and the compound valerianate pill given under hysteria sometimes does good.

Chloride of aluminium is recommended by Gowers in the treatment of the pains of locomotor ataxy, and there is no doubt of the relief afforded by the drug in some cases :—

℞	Aluminii Chloridi	...	...	...	gr. ii.
	Pulveris Glycyrrhizæ	}	...	āā	q.s.
	Glycerini Tragacanthæ				

Fiat Pilula. S. One pill to be taken three times a day.

E. H. C.

CHAPTER V.

GENITO-URINARY SYSTEM.

THE diseases under this system selected for treatment by means of drugs may be classified as follows:—

- | | | |
|------------------------|---|--|
| (1) Nephro-lithiasis | { | (a) Lumbago.
(b) Hæmaturia.
(c) Renal Colic. |
| (2) Bright's Disease | { | (a) Parenchymatous
Nephritis.
(b) Cirrhosis of the
Kidneys. |
| (3) Bladder | | Cystitis. |
| (4) Testis and Urethra | { | (a) Spermatorrhœa.
(b) Gonorrhœa.
(c) Inflammations of
Testis and Cord. |
| (5) Uterus | | Dysmenorrhœa. |

NEPHRO-LITHIASIS.

Lumbago.—This condition is often due to hyperacidity of the urine and may be greatly relieved by the administration of drugs which lessen the acidity. A formula of tried value is:—

R	Potassii Citratis	...	...	...	gr. xl.
	Tincturæ Cardamomi Compositæ...				℥xx.
	Aquæ	...	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Iodide of potassium, colchicum and sulphur are also of great use.

R	Potassii Iodidi	...	...	...	gr. iii.
	Potassii Bicarbonatis	...	...	...	gr. x.
	Tincturæ Colchici	...	...	...	℥v.
	Aquæ Cinnamomi	...	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Sulphur may be given in the form of the powder of guaiacum and sulphur described under the heading of constipation.

Hæmaturia.—In the treatment of this condition the various styptics may be administered, and the prescriptions containing them will be found in the sections dealing with hæmoptysis and hæmatemesis, to which the reader is referred.

Perchloride of iron is often prescribed with excellent effect :—

R	Tincturæ Ferri Perchloridi	...	...	...	℥x.
	Glycerini	...	...	...	℥i.
	Spiritus Chloroformi	...	...	...	℥x.
	Aquæ	...	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Digitalis may also be mentioned as of value under these circumstances.

Renal Colic.—The drug treatment of this condition resolves itself into the removal of the pain by means of opium or morphia.

When the sickness is not so great as to prevent

the patient taking morphia by mouth, it may be prescribed as follows :—

℞ Liquoris Morphinae Hydrochloridi ℥xxx.
Aquaë Cinnamomi ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every two hours if necessary.

Should the stomach, however, be unable to retain the morphia, suppositories should be employed, the suppositoria morphinae (B.P.) being the best form. Belladonna and hyoscyamus are also given internally.

℞ Tincturaë Belladonnæ ... ℥vii.
Tincturaë Hyoscyami ... ℥xxx.
Tincturaë Limonis ... ℥xxx.
Aquaë ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

BRIGHT'S DISEASE.

Parenchymatous Nephritis.—This disorder in the acute stage must be treated with saline diaphoretics. As examples of prescriptions suitable for this condition we may give :—

℞ Potassii Nitratis ... gr. x.
Spiritus Ætheris Nitrosi ... ℥ss.
Liquoris Ammonii Acetatis ... ℥ii.
Syrupi Limonis ... ℥i.
Aquaë ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

Or,

℞ Vini Antimonialis ... ℥xv.
Potassii Nitratis ... gr. x.
Spiritus Ætheris Nitrosi ... ℥ss.
Tincturaë Digitalis ... ℥v.
Aquaë ... q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

At the same time saline aperients should be given, as for example :—

℞	Magnesii Sulphatis	...	...	℥ii.
	Magnesii Carbonatis	...	...	gr. xx.
	Extracti Glycyrrhizæ Liquidī	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice a day.

Or,

℞	Potassii Nitratis	...	...	...	gr. x.
	Sodæ Tartaratae	...	...	...	gr. xl.
	Aquæ Menthæ Piperitæ	...	...	...	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken once a day.

Jalap and calomel may be administered in some cases.

As the attack becomes less acute diuretics should be employed, such as scoparium, squill, juniper, &c. Combinations of these drugs are :—

℞	Potassii Tartratis Acidi	...	...	gr. xx.
	Spiritus Ætheris Nitrosi	...	...	℥ss.
	Infusi Scoparii	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

Or,

℞	Potassii Tartratis Acidi	...	...	gr. xx.
	Spiritus Juniperi	...	...	℥xxx.
	Tincturæ Scillæ	...	...	℥xx.
	Aquæ Camphoræ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞	Tincturæ Scillæ	...	...	...	℥xx.
	Tincturæ Digitalis	...	...	...	℥v. ad x.
	Spiritus Chloroformi	...	...	...	℥x.
	Infusi Serpentariæ	...	...	q.s. ad	℥i.

Fiat Mistura. Two tablespoonfuls to be taken three times a day.

Or, in form of powder. Thus:—

℞	Potassii Tartratis Acidi	...	...	gr. xx.
	Pulveris Jalapæ	...	...	gr. xx.
	Pulveris Zingiberis	...	...	gr. iii.

Fiat Pulvis. S. One powder to be taken twice a day.

Purgatives are also necessary at this stage, and may be prescribed in the form of a pill or a powder. Thus:—

℞	Pulveris Elaterii Compositi	...	gr. ss. ad ii.
	Pilulæ Rhei Compositæ	...	gr. iv.

Fiat Pilula. S. One pill to be taken occasionally.

℞	Hydrargyri Subchloridi	...	gr. ii.
	Pulveris Jalapæ Compositi	...	gr. viii.

Fiat Pulvis. S. One to be taken twice a week.

To induce sweating, pilocarpine is given and may be prescribed as a hypodermic injection.

Thus:—

℞	Pilocarpinæ Nitratis	...	gr. $\frac{1}{20}$ — $\frac{1}{4}$.
	Aquæ Destillatæ	...	℥v.

Fiat Injectio. S. To be used as required.

Cirrhosis of the Kidneys.—The treatment of this form of Bright's disease is tonic rather than diuretic. Iron in some form is usually given:—

℞	Tincturæ Ferri Perchloridi	...	℥x.
	Glycerini	...	ʒi.
	Spiritus Chloroformi	...	℥x.
	Aquæ	...	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞	Liquoris Ferri Acetatis	...	℥xv.
	Glycerini	...	ʒi.
	Spiritus Ammonizæ Aromatici	...	℥xx.
	Aquæ	...	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The sickness and headache so often present in this disease must be treated in the way described under the headings dealing with these disorders.

BLADDER.

Cystitis.—The chief objects in the medicinal treatment of inflammation of the bladder are (1) to alter the reaction of the urine; (2) to render the bladder aseptic. If the urine is alkaline, acids should be given, and *vice versâ*.

In the first event the following formula is suitable:—

℞	Ammonii Benzoatis...	...	...	gr. x. ad xx.
	Tincturæ Lavandulæ Compositæ	...	...	℥xx.
	Aquæ Destillatæ	...	...q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

In the second case give:—

℞	Acidi Borici...	...	...	gr. x. ad xx.
	Glycerini	...	...	℥i.
	Tincturæ Hyoscyami	...	...	℥ss.
	Aquæ	...	...q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The attempt to render the contents of the bladder aseptic is not always successful, but anti-septics in the form of salicylate of soda, salol or resorcin, &c., should be tried:—

℞	Sodii Salicylatis	...	...	gr. x.
	Syrupi Limonis	...	...	℥i.
	Aquæ Cinnamomi	...	...q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Tincturæ Buchu	...	...	...	3i.
	Tincturæ Hyoscyami	...	...	...	3ss.
	Tincturæ Belladonnæ	...	...	...	℥iii.
	Spiritus Chloroformi	...	...	...	℥xv.
	Aquæ	...	...	...	q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

R̄	Resorcini	...	...	...	gr. v.
	Syrupi Aurantii	...	...	...	3ss.
	Aquæ	...	...	...	q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken in a wine-glassful of water three times a day.

Solutions of boric acid, potassium permanganate and salicylic acid are also employed to wash out the bladder; acid and alkaline solutions are also used for this purpose.

For pain, suppositories of morphia and belladonna may be given.

Nocturnal Eneuresis.—In the treatment of this troublesome, and frequently somewhat intractable condition, it is essential that all sources of local irritation, affecting the bladder, penis, vagina, or rectum should first be removed. The urine should at the same time be rendered as clear and bland as possible by the administration of alkalies. These measures are frequently sufficient to effect a cure, but should they fail to do so one or other of the following prescriptions may be employed:—

R̄	Potassii Citratis	...	...	...	gr. x.
	Potassii Bicarbonatis	...	...	...	gr. x.
	Tincturæ Belladonnæ	...	...	...	℥v.
	Syrupi Aurantii	...	...	...	3ss.
	Aquæ	...	...	...	q.s. ad 3i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

The dose of the tincture of belladonna may be increased in the mixture as children are tolerant of relatively large doses of this drug. Bromide of potassium or ammonium or chloral may be added with advantage in some cases.

R̄	Spiritus Ætheris Nitrosi	...	...	℥xx.
	Potassii Citratis	...	...	gr. x.
	Tincturæ Belladonnæ	...	...	℥v.
	Syrupi	...	...	℥i.
	Infusi Buchu	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken in a wineglassful of water every four hours.

R̄	Extracti Rhois Aromatici Fluidi	...	...	℥v.—x.
	Syrupi Aurantii	...	...	℥i.
	Aquæ	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken in water three times a day.

R̄	Extracti Ergotæ Liquidi	...	...	℥i.—iii.
	Syrupi Zingiberis	...	...	℥v.
	Aquæ	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

R̄	Phenazoni	...	...	gr. v.
	Syrupi	...	...	℥x.
	Aquæ	...	...	℥ss.

Fiat Mistura. S. One tablespoonful to be taken at six o'clock (p.m.) and again at nine o'clock.

If the urine be alkaline and ammoniacal the following prescription should be employed:—

R̄	Ammonii Benzoatis	...	...	gr. v—x.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ	...	...	q.s. ad ℥ss.

Fiat Mistura. S. One tablespoonful to be taken every four or six hours.

Weakness of the spinal centres should be treated by:—

℞	Liquoris Arsenicalis	...	...	℥i—iii.
	Tincturæ Nucis Vomicae	...	...	℥i—iv.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ Anethi	...	...	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

Incontinence of urine in elderly or nervous women when coughing, laughing, sneezing &c., can sometimes be greatly relieved by:—

℞	Tincturæ Cantharidis	...	...	℥i.
	Aquæ Menthæ Piperitæ	...	...	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

TESTIS AND URETHRA.

Spermatorrhœa.—This condition should be treated by removing the cause, such as constipation &c., and improving the general health.

Constipation may be relieved by one or other of the formulæ given under this head.

The following combination may be given with the object of improving the general health:—

℞	Tincturæ Ferri Perchloridi	...	...	℥x.
	Tincturæ Nucis Vomicae	...	...	℥v.
	Acidi Phosphorici Diluti	...	...	℥vii.
	Spiritus Chloroformi	...	...	℥xv.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be given three times a day after food.

Or,

℞	Liquoris Arsenicalis	...	...	℥iv.
	Spiritus Ammoniaë Aromatici	...	...	℥xx.
	Ferri et Ammonii Citratis	...	...	gr. v.
	Aquæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Bromide of potassium and tincture of belladonna are sometimes prescribed:—

R̄	Potassii Bromidi ...	...	gr. x.
	Tincturæ Belladonnæ ...	...	℥iv.
	Tincturæ Cardamomi Compositæ ...	...	℥ss.
	Syrupi Aurantii ...	...	℥ss.
	Aquæ ...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Gonorrhœa.—In the acute stage this disorder should be treated by means of saline diaphoretics and aperients. Thus:—

R̄	Magnesii Sulphatis ...	...	℥ss.—℥i.
	Potassii Nitratis ...	...	gr. v.
	Liquoris Ammonii Acetatis ...	...	℥i.
	Tincturæ Hyoscyami ...	...	℥xx.
	Extracti Glycyrrhizæ Liquidi ...	...	℥xx.
	Aquæ ...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

When the acute inflammatory signs have subsided, drugs which exert a stimulating action upon mucous surfaces are employed.

The remedies most commonly used are copaiba, oil of sandal-wood, cubebs, buchu and serpentary.

R̄	Olei Copaibæ ...	...	℥xv.
	Pulveris Cubebæ ...	...	gr. xxx.
	Mucilaginis Tragacanthæ ...	...	℥i.
	Spiritus Ætheris Nitrosi ...	...	℥xv.
	Aquæ Camphoræ ...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Tincturæ Buchu ...	...	℥i.
	Tincturæ Hyoscyami ...	...	℥xx.
	Spiritus Chloroformi ...	...	℥xv.
	Infusi Serpentariæ ...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The disagreeable taste of copaiba and oil of sandalwood may be overcome by prescribing these drugs in the form of capsules, which should contain five or ten minims of the remedy.

Injections are of service in the later stages of gonorrhœa; thus

R̄	Potassii Permanganatis	...	...	gr. iv.
	Aquæ Destillatæ	...	...	℥x.
	Fiat Injectio. S. To be used as directed.			
R̄	Zinci Sulphocarbolicis	...	...	gr. ii.
	Aquæ Destillatæ	...	...	℥i.
	Fiat Injectio. S. To be used as directed.			
R̄	Zinci Sulphatis	...	...	gr. ii. ad. x.
	Aquæ Destillatæ	...	...	℥i.
	Fiat Injectio. To be used as directed.			
R̄	Cupri Sulphatis	...	...	gr. i.
	Aquæ	...	...	℥i.
	Fiat Injectio. S. To be used as directed.			
R̄	Aluminis	...	...	gr. i.
	Aquæ	...	...	℥i.
	Fiat Injectio. S. To be used as directed.			
R̄	Liquoris Plumbi Acetatis	...	...	℥x.
	Aquæ	...	...	℥i.
	Fiat Injectio. S. To be used as directed.			

UTERUS.

Dysmenorrhœa.—This condition frequently calls for treatment, and a large number of drugs have been employed with varying success. Those remedies which exert an antispasmodic effect are commonly used. The following combinations are of service:—

R̄	Spiritus Chloroformi	...	...	℥xx.
	Spiritus Ammoniæ Aromatici	...	...	℥xxx.
	Liquoris Ammonii Acetatis	...	...	℥ss.
	Aquæ Camphoræ	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every three hours while the pain continues.

Or,

R̄ Phenazoni ...	...	gr. v. ad x.
Potassii Bromidi ...	...	gr. x.
Tincturæ Belladonnæ ...	...	℥v.
Aquæ Cinnamomi...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice during the attack.

Or,

R̄ Syrupi Chloral ...	...	℥ss.
Tincturæ Cannabis Indicæ ...	...	℥v.
Tincturæ Gelsemii ...	...	℥v. ad x.
Syrupi Limonis ...	...	℥i.
Aquæ ...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken twice a day during the attack as the physician directs.

The following formula will be found of very great service in the treatment of this condition:—

R̄ Ammonii Bromidi...	...	gr. x.—xv.
Spiritus Ammoniaë Aromatici ...	...	℥ss.
Vini Colchici ...	...	℥x.—xv.
Syrupi Aurantii ...	...	℥i.
Aquæ Chloroformi ...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day; the mixture to be begun one day before the period is expected, and to be continued during the attack.

The following pill is also highly recommended:

R̄ Pulveris Ipecacuanhæ Compositi...	gr. iii.
Pulveris Camphoræ ...	gr. i.
Extracti Hyoscyami ...	gr. i.

Fiat Pilula. S. Two pills every two hours until the pain is relieved (at the discretion of the physician).

A. C.

CHAPTER VI.

CERTAIN GENERAL DISORDERS OF
OBSCURE CAUSATION.

UNDER this head it will be convenient to illustrate the application of drugs in the treatment of the following diseases :

- (1) Rheumatism.
- (2) Gout.
- (3) Rheumatoid Arthritis.
- (4) Rickets.

RHEUMATISM.

The medicinal treatment of acute rheumatism should be preceded by the administration of a mercurial purge, for instance :—

℞ Hydrargyri Subchloridi gr. ii.
 Pilulæ Rhei Compositæ gr. iv.
 Fiat Pilula. S. To be taken at once.

This pill should be followed in six hours' time by the administration of a saline aperient.

℞ Magnesii Sulphatis ℥i.
 Magnesii Carbonatis gr. x.
 Syrupi Zingiberis ℥i.
 Aquæ Menthæ Piperitæ ... q.s. ad. ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken in half a tumblerful of warm water.

Acute rheumatism is most successfully treated by means of the salicylates. The following prescription illustrates one of the combinations commonly used:—

℞	Sodii Salicylatis	...	...	gr. xv.
	Potassii Bicarbonatis	...	...	gr. xx.
	Tincturæ Nucis Vomiceæ	...	...	℥v.
	Tincturæ Lavandulæ Compositæ	...	...	℥ss.
	Glycerini	...	...	℥ss.
	Aquæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every two or three hours for six doses, then every six hours or three times a day.

Salicin may be substituted for the salicylate of soda in the foregoing prescription.

The following local applications are of service for the relief of pain, &c.:—

℞	Olei Gaultheriæ	...	...	℥ii.
	Tincturæ Opii	...	...	℥iss.
	Linimenti Saponis	...	...	q.s. ad ℥i.

Fiat Linimentum. S. Apply freely and cover the joint with cotton wool.

Or,

℞	Sodii Bicarbonatis	...	...	gr. xx.
	Tincturæ Opii	...	...	℥iss.
	Glycerini	...	...	℥ii.
	Aquæ	...	...	q.s. ad ℥i.

Fiat Linimentum. S. Saturate hot cloths with the liniment and apply to the inflamed joint.

Hare recommends the following ointment:—

℞	Ichthyol	...	...	℥iv. vel ℥i.
	Lanolini	...	...	℥ii.

Fiat Unguentum. S. Rub in well and apply about the inflamed part on lint.

When the salicylates disagree, alkalies and quinine should be substituted, preferably in the form of an effervescing mixture. Thus:—

R	Potassii Bicarbonatis	...	...	gr. xxx.
	Sodii Bicarbonatis	...	...	gr. xv.
	Aquæ	...	...	℥i.

Fiat Mistura.

R	Quininæ Sulphatis	...	...	gr. ii.
	Acidi Citrici	...	...	℥ss.
	Syrupi Limonis	...	...	℥ss.
	Aquæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls of each mixture are to be taken together every four or six hours.

Salicin may be added to the alkaline mixture if required.

Acetanilidum and Phenazonum have been lauded in the treatment of acute rheumatism, but the employment of these drugs requires care. Hare recommends the following combination:—

R	Acetanilidi	...	...	gr. ii.
	Caffeinæ	...	...	gr. i.
	Camphoræ Monobromatæ	...	...	gr. i.

Pone in capsulam vel Fiat Pilula. S. One capsule or pill to be taken every three hours, or three times a day.

In this prescription the depressing effects of the acetanilidum are minimised by the addition of caffein. The accompanying formulæ are useful in the treatment of the anæmia which follows an attack of acute rheumatism:—

R	Ferri et Ammonii Citratis	...	...	gr. x.
	Potassii Citratis	...	...	gr. xx.
	Liquoris Arsenicalis	...	...	℥iii.
	Syrupi Aurantii	...	...	℥ss.
	Infusi Calumbæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

Or,

℞	Tincturæ Ferri Perchloridi	...	℥ xv.
	Sodii Salicylatis	... ..	gr. xv.
	Tincturæ Nucis Vomicae	... ..	℥ v.
	Glycerini	... ..	℥ss.
	Syrupi Limonis	... ..	℥ss.
	Aquæ	... ..	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Here a decomposition is deliberately planned.

A large number of medicinal substances have been used in the treatment of chronic rheumatism with indifferent success. It will not be possible to do more than illustrate a few of the more important combinations of drugs that have been employed.

℞	Potassii Iodidi	... ..	gr. v.
	Liquoris Arsenicalis	... ..	℥ iii.
	Tincturæ Cimicifugæ	... ..	℥ss.
	Syrupi Aurantii	... ..	℥ss.
	Aquæ Cinnamomi	... ..	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Tincturæ Guaiaci Ammoniatæ	...	℥ss.
	Potassii Iodidi	... ..	gr. v.
	Mucilaginis Acaciæ	... ..	℥ss.
	Syrupi Aurantii	... ..	℥ss.
	Aquæ	... ..	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Ichthyol	... ..	gr. iiss.
	Pulveris Glycyrrhizæ Radicis	... ..	gr. iii.

Fiat Pilula. S. One pill to be taken three times a day ; or two pills three times a day.

℞	Tincturæ Ferri Perchloridi	...	℥ x.
	Liquoris Arsenici Hydrochlorici	... ..	℥ iii.
	Syrupi Limonis	... ..	℥i.
	Aquæ Chloroformi	... ..	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

R̄	Quininæ Sulphatis	...	...	gr. ii.
	Acidi Sulphurici diluti	...	...	℥v.
	Potassii Iodidi	...	...	gr. v.
	Tincturæ Cimicifugæ	...	...	℥ss.
	Syrupi Aurantii	...	...	℥i.
	Infusi Quassiae	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The Liquor Sarsæ Compositus Concentratus may be substituted for the Infusum Quassiae, and the apparent incompatibility of the ingredients composing the mixture is obviated by means of careful dispensing:—

R̄	Tincturæ Guaiaci	...	...	℥ss.
	Tincturæ Myrrhæ	...	...	℥ss.
	Tincturæ Aloes	...	...	℥ss.
	Aquæ Cinnamomi	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

R̄	Potassii Iodidi	...	...	gr. v.
	Vini Colchici	...	...	℥xv.
	Liquoris Sarsæ Compositi Concentrati	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken in a wine-glassful of water three times a day.

R̄	Quininæ Salicylatis	...	...	gr. ii.
	Salicini	...	...	gr. ii.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{16}$.

Misce. Pone in cachetam. S. One cachet to be taken three times a day.

R̄	Acidi Arseniosi	...	...	gr. $\frac{1}{16}$.
	Resinæ Guaiaci	...	...	gr. ii.
	Quininæ Hydrochloratis	...	...	gr. i.
	Aloini	...	...	gr. $\frac{1}{4}$.

Fiat Pilula. S. One pill to be taken three times a day.

R̄	Tincturæ Rhois	...	...	℥x.
	Tincturæ Cimicifugæ	...	...	℥ss.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Sulphuris gr. xx.
Potassii Tartratis Acidi gr. xx.

Misce et pone in cachetam. S. One cachet to be taken three times a day after food.

The action of these remedies is frequently assisted by the simultaneous exhibition of oleum morrhuæ. Local treatment is usually called for in the form of liniments, ointments, &c., of which the following formulæ are examples:—

℞ Olei Terebinthinæ ℥i.
Linimenti Belladonnæ ℥i.
Linimenti Saponis ℥i.

Fiat Linimentum. S. To be applied to the painful joints with friction.

℞ Tincturæ Opii ℥ii.
Chloroformi ℥ii.
Menthol ℥ii.
Linimenti Camphoræ Ammoniatæ ... ℥vi.
Linimenti Saponis ℥iss.

Fiat Linimentum. S. To be applied with friction to the painful parts.

Hare speaks well of the following ointment.

℞ Ichthyol ℥ii.—℥iv.
Olei Citronellæ gtt. xv.—xxx.
Adipis ℥i.

Fiat Unguentum. S. To be smeared over or rubbed into the affected joint, and then spread on lint which is wrapped round the limb.

He also recommends the *careful* use of veratrine in the form of an ointment:—

℞ Veratrinæ gr. xxx.
Hydrargyri Iodidi Flavi ℥i.
Petrolati ℥ii.

Fiat Unguentum. S. To be applied with care over the joint only. The pulse and respiration should be watched, as the absorption of the veratrine is followed by severe depression.

GOUT.

The medicinal treatment of an acute attack of gout should be prefaced by the administration of a

mercurial purge in the form of calomel (gr. ii.—iv.) or blue pill (gr. ii.—iii.) in combination with compound jalap powder, colocynth, or rhubarb, as illustrated in previous sections, and this may be followed after a few hours' interval by a saline aperient draught. A mixture such as the following may then be exhibited :—

℞	Potassii Bicarbonatis	...	...	gr. xx.
	Potassii Citratis	...	...	gr. xv.
	Vini Colchici	...	...	℥ xv.—xxx.
	Spiritus Chloroformi	...	...	℥ viii.
	Aquæ Pimentæ	...	... q.s. ad	℥ i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

Or,

℞	Vini Colchici	...	...	℥ xv.—xxx.
	Magnesi Sulphatis	...	...	℥ ss.
	Magnesi Carbonatis	...	...	gr. x.
	Aquæ Menthæ Piperitæ	...	... q.s. ad	℥ i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

Or,

℞	Sodii Salicylatis	...	...	gr. xx.
	Potassii Bicarbonatis	...	...	gr. xx.
	Tincturæ Nucis Vomicae	...	...	℥ v.
	Syrupi Aurantii	...	...	℥ ss.
	Aquæ Cinnamomi	...	... q.s. ad	℥ i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

Or,

℞	Ammonii Chloridi	...	...	gr. xv.
	Potassii Citratis	...	...	gr. xx.
	Liquoris Ammonii Citratis	...	...	℥ ii.
	Spiritus Ætheris Nitrosi	...	...	℥ ss.
	Syrupi Limonis	...	...	℥ ss.
	Aquæ Camphoræ	...	... q.s. ad	℥ i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four or six hours.

The citrate of lithia may be substituted for the citrate of potassium in the above formulæ, and it

may be necessary to add strychnine or strophanthus in the face of enfeebled cardiac action. The local use of anodyne applications is usually indicated, and these may be prescribed as follows:—

℞	Linimenti Opii	}	...	āā	℥i.
	Linimenti Chloroformi				
	Linimenti Belladonnæ				

Fiat Linimentum. S. To be applied freely to the inflamed joint.

Or,

℞	Chloral Hydratis	...	...	...	gr. ii.
	Tincturæ Opii	...	...	...	℥ii.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Linimentum. S. To be applied freely to the inflamed joint on lint.

Or,

℞	Veratrinæ	...	...	...	gr. xx.
	Adipis	...	...	...	℥i.

Fiat Unguentum. S. To be applied to the inflamed joint so long as the skin is *not* broken.

After the subsidence of the acute inflammatory process the following ointment may be applied for the relief of itching and for the promotion of the absorption of the inflammatory products.

℞	Chloral Hydratis	...	...	...	gr. ii.
	Potassii Iodidi	...	...	...	gr. x.
	Lanolini	}	...	...	āā ℥ss.
	Adipis				

Fiat Unguentum. S. To be applied to the inflamed joint.

Pain and sleeplessness may be combated by means of:—

℞	Ammonii Bromidi	...	...	...	gr. xxv.
	Chloral Hydratis	...	...	...	gr. xv.
	Syrupi Pruni Virginianæ	...	...	...	℥i.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be given at bed time.

Or,

℞	Potassii Bromidi	...	...	gr. xx.
	Tincturæ Hyoscyami	...	...	℥ss.
	Tincturæ Lupuli	...	...	℥i.
	Aquæ Camphoræ	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken at bed time.

It may be necessary to give opium for the relief of pain and insomnia, and in this event Dover's powder constitutes the most suitable form in which to administer the remedy.

Drugs occupy a subsidiary position in the treatment of chronic gout, nevertheless the alkalis, iodide of potassium, and the like, are oftentimes of great service in assisting in the elimination of imperfectly oxidised products from the blood. A few illustrative prescriptions are appended:—

℞	Liquoris Arsenicalis	...	...	℥iii.
	Potassii Iodidi	...	...	gr. v.
	Syrupi Hemidesmi	...	...	℥ss.
	Liquoris Sarsæ Compositi Concentrati	...	... q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken in a wine-glassful of water three times a day.

℞	Lithii Citratis	...	...	gr. x.
	Potassii Citratis	...	...	gr. xv.
	Tincturæ Colchici	...	...	℥x.
	Syrupi Limonis	...	...	℥i.
	Aquæ	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Lithii Benzoatis	...	...	gr. x.
	Ammonii Benzoatis	...	...	gr. x.
	Syrupi Aurantii	...	...	℥ss.
	Aquæ Cinnamomi	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Potassii Iodidi	...	...	gr. v.
Potassii Bicarbonatis	...	...	gr. xx.
Misturæ Ammoniæ	...	...	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Potassii Iodidi	...	...	gr. v.
Syrupi Ferri Iodidi	...	...	℥ss.
Olei Morrhuæ	...	...	℥iiss.

Fiat Mistura. S. Two teaspoonfuls to be taken three times a day after meals.

℞ Ammonii Phosphatis	...	...	gr. xv.
Sodii Phosphatis	...	...	gr. xx.
Elixiris Simplicis	...	...	℥ss.
Aquæ Menthæ Piperitæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Tincturæ Guaiaci Ammoniatæ	...	...	℥ss.
Potassii Citratis	...	...	gr. xx.
Mucilaginis Acaciæ	...	...	℥ss.
Syrupi Limonis	...	...	℥i.
Aquæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Ammonii Chloridi	...	...	gr. x.
Potassii Bicarbonatis	...	...	gr. xx.
Syrupi Aurantii	...	...	℥i.
Aquæ Chloroformi	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

The following combination sometimes gives great relief to the pain that accompanies both acute and chronic gout :—

℞ Colchicinæ Salicylatis	...	...	gr. ʒʒ.
Phenacetini	...	...	gr. v.

Fiat Pulvis. Pone in capsulam. S. One capsule to be taken every four or six hours as required.

RHEUMATOID ARTHRITIS.

The treatment of rheumatoid arthritis by means of drugs does not, as a rule, afford very encou-

raging results. The following combinations are of service in the treatment of this affection :

℞	Liquoris Arsenicalis	...	...	℥iii.
	Potassii Iodidi	...	...	gr. v.
	Tincturæ Cimicifugæ	...	...	℥ss.
	Elixiris Simplicis	...	...	℥ss.
	Infusi Calumbæ	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

℞	Phosphori	...	...	gr. $\frac{1}{50}$.
	Strychninæ Sulphatis	...	...	gr. $\frac{1}{30}$.
	Sevi	...	...	quantum sufficiat ut solvetur phosphor.

Fiat Pilula. To be coated with sandarach solution. S. One pill to be taken three times a day.

℞	Potassii Iodidi	...	...	gr. v.
	Syrupi Ferri Iodidi	...	...	℥ss.
	Olei Morrhuæ	...	q.s. ad	℥ii.

Fiat Mistura. S. Two teaspoonfuls to be taken three times a day after food.

℞	Tincturæ Ferri Perchloridi	...	℥x.
	Liquoris Arsenici Hydrochlorici	...	℥iii.
	Syrupi Aurantii	...	℥i.
	Aquæ Chloroformi	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken in a wine-glassful of water after meals.

℞	Sulphuris Præcipitati	...	℥ss.
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Fiat Pulvis. S. One teaspoonful of the powder to be taken in milk three times a day. It may also be taken in treacle or in cachets.

RICKETS.

The treatment of rickets is essentially hygienic and dietetic. Nevertheless the protoplasmic dystrophosis, or metabolic and nutritional insufficiency or incapacity, inherent or acquired, on which the disease depends may be favourably influenced by means of drugs. At the same time

treatment by drugs is so wholly subservient to the dietetic management of the disease that we shall depart from the rule hitherto followed in this work so far as to briefly indicate the means by which the physiological and scientific feeding of infants can be accomplished.

The paramount importance of adopting exact methods in the regulation of the diet of hand-fed children under one year of age has led to the use of milk formulæ wherein the proportions of proteid fat and sugar contained in the mixture are ordered in the form of "percentages" in accordance with a fixed total quantity, which is regulated by the age of the infant. The following formula represents a prescription of this kind, suitable for an infant aged two months, in normal health and of average weight :

R	Proteids	...	...	...	...	1.5 per cent.
	Fat	...	...	...	...	3.5 " "
	Sugar	...	...	...	...	6.0 " "
	Lime water	...	...	...	...	5.0 " "

Fiat Mistura. S. To be heated to 167° F. and made up into eight bottles each holding three ounces, making a total of twenty-four ounces in the twenty-four hours.

The disadvantages connected with this method of prescribing milk mixtures are that the preparation must be made up in specially equipped milk laboratories, and also that the process of manufacture entails more manipulation of the ingredients, which are, of course, obtained from cow's milk, than is desirable.

It is probably of much greater importance than is generally recognised, that the modification of cow's milk for the use of infants should be effected with the least possible disturbance of its physical and chemical properties.

TABLE FOR PREPARING MODIFIED MILK FOR A HEALTHY INFANT OF AVERAGE WEIGHT DURING THE SUCCESSIVE STAGES OF ITS LIFE, FROM ONE DAY TO ONE YEAR.

(The Milk should be ordinary milk, and the Cream 16 per cent. fat. Ordinary good Cream obtained by skimming may be assumed to be of this strength.)

Age of Infant	...	...	1st day	2nd day	3rd to 14th day	14th to 28th day	2nd month	3rd month	4th to 6th month	6th to 8th month	8th to 12th month
Percentage Composition of Mixture:—											
Proteid	...	...	0.0	0.5	1.0	1.0	1.5	1.5	1.5	2.0	2.5
Fat	...	...	0.0	2.0	2.5	3.0	3.5	4.0	4.0	4.0	4.0
Sugar	...	...	5.0	5.0	6.0	6.0	6.0	6.5	7.0	7.0	7.0
Lime Water	...	...	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Milk	...	...	None	None	1 oz. 4 dr.	1 oz. 4 dr.	4 oz. 6 dr.	4 oz. 2 dr.	5 oz. 4 dr.	13 oz. 4 dr.	23 oz.
Cream (16 per cent. fat)	...	...	None	1 oz.	1 oz. 4 dr.	3 oz.	4 oz. 2 dr.	6 oz. 6 dr.	8 oz.	7 oz. 4 dr.	7 oz.
Milk Sugar (by measure, not by weight)	...	...	3 dr.	4 dr.	6 dr.	1 oz. 1 dr.	1 oz. 2 dr.	1 oz. 7 dr.	2 oz. 1 dr.	2 oz. 4 dr.	2 oz. 4 dr.
Lime Water	...	...	None	3 dr.	4 dr.	6 dr.	1 oz.	1 oz. 4 dr.	2 oz.	2 oz. 4 dr.	3 oz.
Total Quantity for 24 hours, (made up by addition of water)	...	...	5 oz.	8 oz.	12 oz.	18 oz.	24 oz.	30 oz.	36 oz.	42 oz.	48 oz.
Quantity in each bottle (for one feeding)	...	...	4 dr.	6½ dr.	1 oz. 1 dr.	1 oz. 6 dr.	3 oz.	3 oz. 5 dr.	4 oz. 4 dr.	6 oz.	8 oz.
Total number of bottles ...	...	...	10	10	10	10	8	8	8	7	6
Intervals between feedings*	...	...	2½ hrs.	2½ hrs.	2½ hrs.	2½ hrs.	3 hrs.	3 hrs.	3 hrs.	3½ hrs.	4 hrs.

* These intervals are approximate only. During the night they should be longer, and during the day shorter.

The difficulty of adopting a percentage method of prescribing milk for infants which can be employed at home, and at the same time of avoiding undue manipulation of the mixture, can be overcome by the use of a somewhat elaborate series of calculations, which have for their object the modification of cow's milk by the addition of cream, milk sugar, lime water and water, so that it can be made to possess for a given amount, the percentage composition of human milk at any period of lactation.

Dr. Eric Pritchard has devised a table in which these calculations are displayed in the form of exact measures, whereby it becomes perfectly simple to make a milk mixture of any percentage composition that may be desired, so that the regulation of the diet may be effected with absolute precision and accuracy. By Dr. Pritchard's kind permission we append this table, which is intended only as a "proximate guide under normal conditions of health, weight, &c." The mixtures prepared under the formulæ ordered in this table may, when desired, be sterilised in a suitable apparatus. By a further elaboration of this table Dr. Pritchard has demonstrated (see p. 29, "The Physiological Feeding of Infants," by Eric Pritchard, M.A., M.D.) that it is possible to increase or decrease the percentage composition of the milk mixtures, so that the requirements of any particular case can be met with perfect ease and accuracy.

The following formulæ may be employed with advantage in the medicinal treatment of rickets :—

R	Syrupi Ferri Iodidi...	...	...	℥ss.
	Olei Morrhuæ	...	... q.s. ad	℥ii.

Fiat Mistura. S. Two teaspoonfuls to be taken three times a day after food.

R̄ Olei Phosphorati ℥ss.
 Olei Morrhuæ ℥i.

Fiat Mistura. S. One to two teaspoonfuls to be taken three times a day after meals.

R̄ Olei Morrhuæ ℥x.
 Syrupi Calcii Lactophosphatis } āā ℥xxv.
 Liquoris Calcis }

Fiat Mistura. S. One teaspoonful to be taken three times a day after meals.

R̄ Sodii Hypophosphitis gr. v.
 Calcii Hypophosphitis gr. v.
 Ferri Hypophosphitis gr. ii.
 Sodii Bicarbonatis gr. v.
 Spiritus Chloroformi ℥xv.
 Aquæ Camphoræ q.s. ad ℥i.

Fiat Mistura. S. One teaspoonful to one tablespoonful to be taken three times a day.

R̄ Syrupi Ferri Phosphatis ℥i.

Fiat Syrupus. S. One teaspoonful to be taken three times a day.

R̄ Calcii Hypophosphitis gr. ii.
 Syrupi Ferri Phosphatis ℥ss.
 Syrupi q.s. ad ℥i.

Fiat Mistura. S. One teaspoonful to be taken three times a day.

R̄ Syrupi Ferri Phosphatis ℥i.
 Syrupi Ferri Iodidi ℥i.

Fiat Syrupus. S. Two teaspoonfuls to be taken three times a day.

E. H. C.

CHAPTER VII.

DISEASES OF THE BLOOD.

THE formulæ employed in prescribing drugs for the relief and cure of disorders of the blood will be considered under the following scheme :—

- (1) Anæmia and Chlorosis.
- (2) Pernicious Anæmia.
- (3) Splenic Anæmia, Leucocythæmia, and Lymphadenoma.
- (4) Hæmophilia.
- (5) Purpura.
- (6) Scurvy.

ANÆMIA AND CHLOROSIS.

The treatment of anæmia should be directed in the first instance to the removal of the cause of the impoverishment of the blood. Thereafter the restoration of a normal blood condition should be attempted by means of hæmatinics and general tonics. There is perhaps no disease in which medicinal treatment affords more satisfactory results than in the case of chlorosis. Indeed, this condition can always be cured by iron provided the drug is given long enough and in sufficiently large doses. A great variety of ferruginous preparations have been employed in the treatment of chlorosis, but we do not propose to give more

than a few illustrative formulæ which, under proper conditions of administration, will be found perfectly efficacious for the cure of the disease.

It is very desirable that during the administration of iron there should be a regular daily action of the bowels. A saline aperient given before breakfast, or five to ten grains of the *Pilula Aloes et Ferri* taken once or twice a day usually suffice to accomplish this object. An irritable condition of the stomach may call for the preliminary use of a mixture such as the following:—

℞	Liquoris Bismuthi et Ammonii	
	Citratis	ʒi.
	Vini Ferri Citratis	ʒi.
	Syrupi Limonis	ʒi.
	Infusi Calumbæ	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

Or,

℞	Ferri et Ammonii Citratis	gr. x.
	Spiritus Ammonię Aromatici	ʒss.
	Sodii Bicarbonatis	gr. x.
	Syrupi Limonis	ʒss.
	Infusi Calumbæ	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

Thereafter one of the following combinations may be used.

℞	Tincturę Ferri Perchloridi... ..	℥x—xx.
	Liquoris Arsenici Hydrochlorici	℥iii.
	Glycerini	ʒi.
	Spiritus Chloroformi	℥x.
	Aquę	q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken in a wineglassful of water three times a day after food.

℞	Ferri Sulphatis Exsiccati	gr. i.—iii.
	Glucosi Liquidi }	āā. q.s.
	Theriacę }	

Fiat Pilula. S. One pill to be taken three times a day after meals.

℞ Ferri Sulphatis	...	...	gr. ii.—iv.
Acidi Sulphurici Diluti	...	...	℥ v.
Syrupi Zingiberis	...	...	℥i.
Aquæ Pimentæ	...	...	q.s. ad ℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

Half-drachm doses of the sulphate of magnesium may frequently be added to this mixture with advantage.

℞ Misturæ Ferri Compositæ	}	āā ℥ss.
Decocti Aloes Compositi		

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after meals.

The use of the Decoctum Aloes Compositum (Squire) makes a much more palatable mixture.

An elegant method of prescribing iron is in the form of an effervescing mixture. Thus:—

℞ Ferri et Ammonii Citratis...	...	gr. x.
Acidi Citrici...	...	gr. xx.
Syrupi Limonis	...	℥i.
Aquæ	...	q.s. ad ℥ss.

Fiat Mistura.

℞ Potassii Bicarbonatis	...	gr. xxx.
Aquæ	...	℥ss.

Fiat Mistura. S. A tablespoonful of each mixture to be taken together during effervescence three times a day after meals.

An elegant preparation of iron, known under the name of Basham's mixture, which is especially useful in febrile cases and in the treatment of the anæmia of Bright's disease, is prepared as follows:—

℞ Tincturæ Ferri Perchloridi	...	2 parts.
Acidi Acetici Diluti	...	3 „
Liquoris Ammonii Acetatis	...	20 „
Elixiris Aurantii	...	10 „
Syrupi	...	15 „
Aquæ	...	50 „

Fiat Mistura. S. One to two tablespoonfuls to be taken three times a day after meals.

PERNICIOUS ANÆMIA.

The medicinal treatment of pernicious anæmia is extremely unsatisfactory. Cases of recovery have, however, been recorded under the use of arsenic and other drugs. The following formulæ are those most likely to prove of service in the treatment of this disorder.

℞ Liquoris Arsenicalis ℥ v.—xv.
Tincturæ Cardamomi Compositæ... ʒss.
Aquæ Menthæ Piperitæ ... q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day after food.

℞ Beta-Naphthol gr. v.
Glucosi q.s.

Fiat Pilula. S. One pill to be taken three times a day.

Or,

℞ Beta-Naphthol gr. v.
Olei Olivæ ʒi.
Misturæ Amygdalæ ... q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞ Salol gr. x.
Mucilaginis Acaciæ q.s.
Elixiris Simplicis ʒss.
Aquæ Menthæ Piperitæ ... q.s. ad ʒi.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

SPLENIC ANÆMIA, LEUCOCYTHÆMIA AND
LYMPHADENOMA.

The treatment of these disorders by means of drugs has hitherto been attended with very little success. The following formulæ contain most of the drugs which experience has shown are likely to be of service.

℞	Quininæ Hydrochloridi	...	...	gr. v.—x.
	Acidi Hydrochlorici Diluti	...	...	℥ v.—x.
	Liquoris Arsenici Hydrochlorici	...	...	℥ v.—xv.
	Syrupi Aurantii	...	...	℥i.
	Aquæ	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Liquoris Arsenicalis	...	...	℥ v.—xv.
	Tincturæ Cardamomi Compositæ	...	...	℥ss.
	Aquæ Menthæ Piperitæ	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Phosphori	...	...	gr. $\frac{1}{30}$.
	Olei Theobromatis	...	...	q.s.

Fiat Pilula. Cover with sandarach solution. S. One pill to be taken three times a day.

℞	Olei Phosphorati	...	...	℥iii.
	Olei Morrhuæ	...	...	℥ii.

Fiat Mistura. S. Two teaspoonfuls to be taken three times a day after meals.

℞	Potassii Iodidi	...	...	gr. x.
	Syrupi Ferri Iodidi	...	...	℥ss.
	Olei Morrhuæ	...	... q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken three times a day.

HÆMOPHILIA.

The following formulæ may be used for the purpose of controlling the bleeding:—

℞	Tincturæ Ferri Perchloridi	...	...	℥ xx.
	Potassii Chloratis	...	...	℥ viii.
	Syrupi Limonis	...	...	℥i.
	Aquæ Chloroformi	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every six hours.

℞	Acidi Gallici	...	...	gr. x.—xx.
	Acidi Sulphurici Diluti	...	...	℥ x.
	Glycerini	...	...	℥i.
	Aquæ Destillatæ	...	... q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

℞	Acidi Tannici	...	...	...	gr. x.—xx.
	Syrupi Zingiberis	...	...	...	℥i.
	Aquæ Destillatæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

℞	Olei Terebinthinæ	...	...	...	℥x.
	Mucilaginis Acaciæ	...	...	...	q.s.
	Syrupi Zingiberis	...	...	...	℥i.
	Aquæ Menthæ Piperitæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every ur hours.

℞	Extracti Ergotæ Liquidi	...	...	...	℥ss.—℥i.
	Tincturæ Hamamelidis	...	...	...	℥ss.—℥i.
	Elixiris Simplicis	...	...	...	℥i.
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every one or two hours.

℞	Aluminis	...	...	...	gr. x.
	Syrupi Rosæ	...	...	...	℥ss.
	Infusi Rosæ Acidi	...	...	q.s. ad	℥ss.

Fiat Mistura. S. One tablespoonful to be taken every half hour.

Alum is readily soluble in the acid infusion of roses.

℞	Plumbi Acetatis	...	...	...	gr. i.
	Camphoræ	...	...	...	gr. ii.
	Saponis Animalis	...	...	...	q.s.
	Glycerini Tragacanthæ	...	...	...	q.s.

Fiat Pilula. S. One pill to be taken every hour.

Hare recommends this combination in the treatment of hæmorrhage from the bowel.

℞	Calcii Chloridi	...	...	...	gr. xx.
	Extracti Glycyrrhizæ Liquidi	}		āā	℥ss.
	Glycerini				
	Aquæ	...	...	q.s. ad	℥i.

Fiat Mistura. S. Two tablespoonfuls to be taken every four hours.

PURPURA.

The formulæ given under hæmophilia may also be employed in the treatment of purpura. The accompanying prescriptions are also of service :—

℞	Tincturæ Ferri Perchloridi	...	℥ xv.
	Liquoris Arsenici Hydrochlorici	...	℥ iv.
	Glycerini	...	℥ i.
	Aquæ Menthæ Piperitæ	... q.s. ad	℥ i.

Fiat Mistura. S. Two tablespoonfuls to be taken three times a day.

℞	Argenti Nitratis	...	gr. $\frac{1}{2}$ - $\frac{1}{2}$.
	Unguenti Kaolini	...	q.s.

Fiat Pilula. S. One pill to be taken three times a day.

℞	Extracti Glandulæ Suprarenalæ	...	gr. v.
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Fiat Tabella. S. One tablet to be taken twice or three times a day.

SCURVY.

The treatment of this disorder is almost entirely dietetic. The following drugs are of service :—

℞	Succi Limonis Recentis	...	℥ i.
---	------------------------	-----	------

Fiat Succus. S. One teaspoonful to be taken in water several times a day.

℞	Liquoris Arsenicalis	...	℥ ii.
	Vini Ferri Citratis	... q.s. ad	℥ ii.

Fiat Mistura. S. Two teaspoonfuls to be taken in a wine-glassful of water three times a day after food.

℞	Olei Morrhuæ	...	℥ i.
	Vini Ferri	... q.s. ad	℥ ii.

Fiat Mistura. S. Two teaspoonfuls to be taken three times a day after food.

℞	Phosphori	...	gr. $\frac{1}{2}$.
	Olei Morrhuæ	...	℥ iii.

Fiat Mistura. S. One teaspoonful to be taken three times a day after food.

The following formulæ illustrate the method of prescribing drugs for local application in cases of stomatitis:—

R	Hydrogenii Peroxidi	...	...	℥i (15 volume solution).
	Aquæ	...	...	℥vi.
Fiat Lotio. S. To be used as a mouth wash.				
R	Potassii Chloratis	...	...	gr. xv.
	Tincturæ Myrrhæ	...	...	℥xxv.
	Mellis	...	...	℥xxv.
	Infusi Rosæ Acidi	...	... q.s. ad	℥i.
Fiat Lotio. S. To be used as a mouth wash.				
R	Glycerini Boracis	...	...	℥i.
	Tincturæ Myrrhæ	...	...	℥xx.
	Aquæ Destillatæ	...	... q.s. ad	℥i.
Fiat Lotio. S. To be used as a mouth wash.				
R	Aluminis	...	...	gr. x.
	Infusi Rosæ Acidi	...	...	℥i.
Fiat Lotio. S. To be used as a mouth wash.				
R	Glycerini Acidi Carbolici	}	...	āā ℥ii.
	Glycerini Acidi Tannici			
	Glycerini Acidi Borici			
	Glycerini			
Fiat Lotio. S. To be applied to the gums on a swab.				
R	Acidi Salicylici	...	...	gr. x.
	Boracis	...	...	gr. x.
	Potassii Chloratis	...	...	gr. x.
	Glycerini	...	...	℥i.
	Aquæ Rosæ	...	... q.s. ad	℥i.
Fiat Lotio. S. To be used as a mouth wash.				
R	Acidi Chromici	...	...	gr. i.
	Aquæ	...	...	℥i.
Fiat Lotio. S. To be used as a mouth wash.				
R	Glycerini Acidi Carbolici	...	...	℥i.
	Sodii Bicarbonatis	...	...	gr. xv.
	Glycerini Boracis	...	...	℥i.
	Aquæ	...	... q.s. ad	℥i.
Fiat Lotio. S. To be used as directed.				
R	Phenol Sodique	...	...	℥i.

(Vide Extra Pharmacopœia.)

Fiat Lotio. S. One teaspoonful in half a glassful of water to be used as a mouth wash.

Whitla recommends the use of the following combination :—

℞	Tincturæ Myrrhæ	}	...	āā	℥ss.
	Tincturæ Krameriæ				
	Tincturæ Cinchonæ				
	Tincturæ Catechu				
	Eau de Cologne	℥i.

Fiat Mistura. A large teaspoonful in a wineglassful of water to be used frequently as a mouth wash.

E. H. C.

CHAPTER VIII.

DISEASES OF THE SKIN.

THE following arrangement of cutaneous disorders will be adopted for the purpose of illustrating the various methods and formulæ that are used in the application of medicaments to the skin :—

- (1) Inflammatory affections of the skin.
- (2) Disorders of the glands and hair.
- (3) Dermato-neuroses.
- (4) Parasitic affections of the skin.

INFLAMMATORY AFFECTIONS OF THE SKIN.

The formulæ employed in the *local* treatment of inflammatory disorders of the skin will be illustrated under the heading of Eczema, which constitutes by far the most common and protean form of cutaneous disease that the therapist is called upon to remedy.

Eczema.—In the acute stages of the disorder one of the following formulæ may be used :—

Pulveres :—

℞	Magnesii Carbonatis	...	...	ʒii.
	Zinci Oxidi	...	...	ʒii.
	Bismuthi Carbonatis	...	...	ʒi.
	Pulveris Talcis	...	...	ʒiii.

Fiat Pulvis. S. To be dusted over the affected part.

℞	Zinci Oleatis	...	...	...	℥ii.
	Acidi Borici...	...	...	...	℥ii.
	Pulveris Talcis	...	...	...	℥iv.
Fiat Pulvis.	S. To be dusted over the affected part.				
℞	Zinci Oxidi	...	...	...	℥iv.
	Camphoræ	...	...	...	gr. xxx.
	Pulveris Amyli	...	...	...	℥iv.
Fiat Pulvis.	S. To be dusted over the affected part.				
℞	Acidi Salicylici	...	...	...	gr. x.—xx.
	Pulveris Amyli	...	...	...	℥i.
	Pulveris Talcis	...	...	...	℥vii.
Fiat Pulvis.	S. To be dusted over the affected part.				

Lotiones :—

℞	Glycerini Acidi Carbolic	...	...	℥ii.
	Zinci Oxidi	...	...	℥i.
	Aquæ Calcis	...	q.s. ad	℥i.
Fiat Lotio. S. To be applied freely on lint, &c.				
℞	Tincturæ Opii	...	...	℥ss.
	Zinci Oxidi	...	...	℥i.
	Tincturæ Camphoræ	...	...	℥xxx.
	Liq. Plumbi Subacetatis Diluti	q.s. ad	℥i.	
Fiat Lotio. S. To be applied freely to the diseased part.				
℞	Glycerini Acidi Borici	...	...	℥ii.
	Liq. Plumbi Subacetatis Diluti	q.s. ad	℥i.	
Fiat Lotio. S. To be applied to the affected parts.				
℞	Calaminæ Preparatæ	...	...	℥i.
	Zinci Oxidi	...	...	℥i.
	Olei Olivæ	}	...	āā ℥i.
	Aquæ Calcis			
Fiat Lotio. S. To be applied freely to the diseased parts.				
℞	Sodii Biboratis	...	...	℥ii.
	Aquæ Rosæ	...	...	℥i.
Fiat Lotio. S. To be applied two or three times a day.				
℞	Zinci Carbonatis	}	...	āā ℥ss.
	Zinci Oxidi			
	Pulveris Amyli			
	Glycerini			
	Aquæ Rosæ	...	q.s. ad	℥i.
Fiat Lotio. S. To be applied freely to the affected parts.				

Unguenta.—The following formulæ make excellent cold creams, which may be used as the vehicle for other active ingredients:

R _x	Zinci Oxidi	...	...	...	℥vi.
	Lanolini	...	...	...	℥ii.
	Olei Olivæ	...	...	...	℥i.
	Aquæ Calcis	...	...	...	℥i. (Morris).

Fiat Cremor. S. To be spread over the affected parts.

Or,

R _x	Aquæ Rosæ	...	...	...	℥x.
	Olei Amygdalæ	...	...	...	℥x.
	Ceræ Albæ	...	...	...	℥i.
	Cetacei	...	...	...	℥i. (Morris).

Misce. Fiat Cremor.

Or,

R _x	Lanolini	...	...	...	℥iiss.
	Adipis Benzoati	...	...	...	℥v.
	Aquæ Rosæ	...	...	...	℥viiss.

Misce. Fiat Cremor.

R _x	Lanolini	...	...	...	℥i.
	Glycerini Boracis	...	...	...	℥i.
	Unguenti Aquæ Rosæ	...	q.s.	ad	℥i.

Fiat Cremor.

Carbolic acid (gr. v.—x.), Boracic acid (gr. v.—xv.), and Salicylic acid (gr. v.—x.), &c., may be added to these bases.

Pasta.—The following is Lassar's formula:—

R _x	Acidi Salicylici	...	...	...	gr. x.
	Vaselini	...	...	...	℥ss.
	Zinci Oxidi	...	...	...	℥ii.
	Pulveris Amyli	...	...	...	℥ii.

Misce. Fiat Pasta.

This paste may also be used as a vehicle for other ingredients, such as tar, resorcin, ichthyol, &c., Hyde and Montgomery recommend the following paste:—

R ^x	Pulveris Talcis	}	āā	℥ii.
	Pulveris Amyli					
	Vaselini					
	Lanolini					

Misce. Fiat Pasta.

Whitla recommends the following ointment for routine treatment:

R ^x	Unguenti Zinci Benzoati	...	...	℥ii.
	Calaminæ Preparatæ	...	...	℥ii.

Misce. Fiat Unguentum.

Glyco-gelatins.—Hyde and Montgomery recommend the following formula:—

R ^x	Gelatini	}	...	...	āā	℥i.
	Zinci Oxidi					
	Glycerini	...	...	...	...	℥iss.
	Aquæ Destillatæ	...	...	...	...	℥iii.

Misce.

These ingredients are mixed over a hot water bath and cut up into pieces of convenient size on cooling. The amount of glycerine or gelatine may be increased according as a more slowly drying or more rapidly drying preparation is desired. Active ingredients may be incorporated with the glyco-gelatine base.

The preparation is applied warm by means of a brush.

In the chronic stages of eczema the following formulæ are of service.

Pulveres.—The formulæ already given may be used, or the following:—

R ^x	Acidi Salicylici	...	...	...	gr. x.—xxx.
	Zinci Oxidi	...	...	...	℥iv.
	Pulveris Amyli	...	...	...	℥iv.

Fiat Pulvis. S. To be dusted over the affected parts.

Lotiones:—

R ^x	Liquoris Carbonis Detergentis	...	℥xx.—℥ss.
	Glycerini Plumbi Subacetatis	...	℥ss.
	Aquæ Rosæ	... q.s. ad	℥i.

Fiat Lotio. S. To be applied on lint.

R	Glycerini Acidi Carbolici	...	...	℥i.
	Menthol	...	...	gr. x.—xx.
	Spiritus Vini Rectificati	...	...	q.s.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Lotio. S. To be applied on lint in conjunction with the use of an ointment.

R	Ichthyol	...	...	℥i.
	Glycerini	}	...	...
	Aquæ Rosæ		...	āā ℥ss.

Fiat Lotio. S. To be applied freely to the affected skin.

Unguenta.—The cold cream, paste and glyco-gelatine bases already given form excellent vehicles for active ingredients such as tar, salicylic acid, resorcin, chrysarobin, ichthyol, sulphur, &c.

The following ointments are of service:—

R	Liquoris Carbonis Detergentis	...	...	℥i.
	Hydrargyri Ammoniaci	...	...	gr. x.
	Vaselini	...	...	℥i.
	Lanolini	...	q.s. ad	℥i.

Fiat Unguentum. S. To be applied once or twice daily.

R	Acidi Salicylici	...	...	gr. x.—xv.
	Valsol	...	...	℥i.

Fiat Unguentum. S. To be applied once or twice daily.

Valsol makes an excellent vehicle for salicylic acid and also for iodine.

R	Resorcini	...	...	gr. x.—xx.
	Glycerini	...	...	℥i.
	Lanolini	...	q.s. ad	℥i.

Fiat Unguentum. S. To be applied once or twice a day.

R	Sulphuris Præcipitati	...	...	gr. x.—xxx.
	Resorcini	...	...	gr. x.
	Unguenti Aquæ Rosæ	...	...	℥i.

Fiat Unguentum. S. To be applied on lint.

R	Chrysarobini	...	...	gr. x.—℥i.
	Adipis Benzoati	...	...	℥i.

Fiat Unguentum. S. To be applied with care once or twice a day.

DISORDERS OF THE GLANDS AND HAIR.

Seborrhæa.—After the removal of crusts and fatty substances by means of the spiritus saponis alkalinus (Hebra), or of Johnston's ethereal soap or of soap and warm water, one of the following applications may be used:—

℞	Sulphuris Præcipitati	...	...	gr. xv.—℥i.
	Resorcini	...	...	gr. xv.
	Essentiæ Limonis	...	...	q.s.
	Vaselini	...	...	℥i.
	Unguenti Aquæ Rosæ	...	q.s. ad	℥i.

Fiat Unguentum. S. To be applied to the scalp once or twice a day.

℞	Acidi Salicylici	...	...	gr. xv.—xxx.
	Valsol	...	...	℥i.

Fiat Unguentum. S. To be rubbed into the scalp night and morning.

Valsol makes an excellent vehicle for salicylic acid.

℞	Hydrargyri Subchloridi	...	...	gr. x.
	Glycerini Acidi Tannici	...	...	℥i.
	Unguenti Aquæ Rosæ	...	q.s. ad	℥i.

Fiat Unguentum. S. To be rubbed into the scalp night and morning.

℞	Sulphuris Præcipitati	...	...	gr. xx.
	Resorcini	...	...	gr. xv.
	Spiritus Rectificati	...	...	℥i.
	Glycerini	...	...	℥ii.
	Aquæ Rosæ	...	q.s. ad	℥i.

Fiat Lotio. S. To be applied to the scalp night and morning.

℞	Hydrargyri Perchloridi	...	...	gr. ½.
	Tincturæ Cantharidis	...	...	℥xx.
	Resorcini	...	...	gr. x.
	Olei Amygdalæ Dulcis	...	...	℥ss.
	Spiritus Vini Rectificati	...	...	℥ss.
	Aquæ Destillatæ	...	q.s. ad	℥i.

Fiat Lotio. S. To be rubbed into the scalp.

Comedones.—Squeeze out and apply—

℞ Sulphuris Præcipitati gr. xv.
 Unguenti Aquæ Rosæ ℥i.
 Fiat Unguentum. S. To be applied to the skin.

Or the following application suggested by Piffard—

℞ Sulphuris Sublimati
 Tincturæ Lavandulæ Compositæ
 Glycerini
 Alcohol
 Aquæ Camphoræ } aa. ℥i.
 Fiat Lotio. S. Apply to the affected parts of the skin.

Hyperidrosis.—Belladonna may be exhibited internally and externally.

The following applications are also useful :—

℞ Acidi Salicylici ℥ss.
 Pulveris Talcis q.s. ad ℥i.
 Fiat Pulvis. S. To be dusted over the feet.
 ℞ Zinci Oleatis ℥iii.
 Pulveris Amyli q.s. ad ℥i.
 Fiat Pulvis. S. To be dusted over the feet.
 ℞ Quininæ Sulphatis gr. iii.
 Spiritus Vini Rectificati ℥i.
 Fiat Lotio. S. To be applied to the skin.
 ℞ Saloli gr. v.
 Zinci Oxidi }
 Talcis } aa. ℥ss.
 Fiat Pulvis. S. To be dusted over the feet.

Bromidrosis.—The foregoing formulæ may be used, or—

℞ Aldehydi Formici 1—10 per cent.
 (in alcohol).
 Fiat Solutio. S. To be applied to the feet, &c.
 ℞ Formaldehydi ℥ii.
 Lanolini ℥i.

Fiat Unguentum. S. To be applied once or twice a day to the affected parts.

Alopecia.—The following combinations in the form of lotions and salves are of service:—

℞ Hydrargyri Perchloridi	...	...	gr. v.
Spiritus Vini Rectificati	...	...	℥ii.
Acidi Acetici	...	...	℥ii.
Glycerini	...	...	℥ss.
Aquæ Rosæ	...	... q.s. ad	℥vi. (Hyde and Montgomery)

Fiat Lotio. S. To be rubbed into the scalp.

℞ Hydrargyri Perchloridi	...	...	gr. $\frac{1}{2}$.
Tincturæ Cantharidis	...	...	℥xxv.
Spiritus Rosmarini	...	...	℥i.
Olei Lavandulæ	...	...	℥xx.
Spiritus Vini Rectificati	...	...	℥ii.
Aquæ Destillatæ	...	... q.s. ad	℥i.

Fiat Lotio. S. To be rubbed into the scalp.

℞ Pilocarpinæ Hydrochloratis	...	...	gr. $\frac{1}{4}$.
Quininæ Hydrochloratis	...	...	gr. ii.
Tincturæ Cantharidis	...	...	℥xxv.
Glycerini	...	...	℥ss.
Aquæ Rosæ	...	... q.s. ad	℥i.

Fiat Lotio. S. To be rubbed into the scalp.

℞ Aceti Cantharidis	...	...	℥vi.
Hydrargyri Perchloridi	...	...	gr. vi.
Resorcini	...	...	gr. xxx.
Glycerini Boracis	...	...	℥vi.
Olei Bergamottæ	...	...	℥x.
Aquæ	...	... q.s. ad	℥vi.

Fiat Lotio. S. To be rubbed into the scalp.

℞ Tincturæ Cantharidis	...	...	℥iii.
Quininæ Hydrochloratis	...	...	℥i.
Aquæ Rosæ	...	... q.s. ad	℥vi.

Fiat Lotio. S. To be rubbed into the scalp night and morning.

℞ Resorcini	...	...	℥ii.
Aquæ Rosæ	...	...	℥vi.

Fiat Lotio. S. To be rubbed well into the scalp,

These lotions should be used in conjunction with an antiseptic pomade if the scalp is dry. The formulæ given under Seborrhœa are suitable.

The following ointments are also of service.

℞ Sulphuris Præcipitati	...	...	gr. xx.
Resorcini	...	...	gr. xv.
Olei Limonis	...	...	q.s.
Glycerini	}	...	aa ʒss.
Lanolini			

Fiat Unguentum. S. To be rubbed into the scalp night and morning.

℞ Acidi Salicylici	...	...	gr. viii.
Sulphuris Præcipitati	...	...	gr. xv.
Resorcini	...	...	gr. x.
Vaselini	...	...	ʒi.

Fiat Unguentum. S. To be rubbed into the scalp.

℞ Olei Rusci	}	...	aa ʒi.
Olei Lavandulæ			
Olei Pini Sylvestris	...	...	ʒvi. (Piffard.)

Fiat Oleum. S. To be rubbed into the scalp.

℞ Hydrargyri Subchloridi	...	...	ʒss.
Hydrargyri Ammoniaci	...	...	ʒss.
Vaselini	...	...	ʒi.

Fiat Unguentum. S. To be rubbed into the scalp.

Alopecia Areata:—

℞ Tincturæ Cantharidis	...	...	ʒi.
Hydrargyri Perchloridi	...	...	gr. i.—ii.
Olei Ricini	...	...	ʒss.
Olei Pini Sylvestris	...	...	ʒss.
Spiritus Vini Rectificati	...	...	ʒii.
Olei Lavandulæ	...	...	ʒi.

Fiat Lotio. S. To be rubbed into the scalp with friction.

℞ Liquoris Ammoniacæ fortis...	...	...	ʒss.
Chloroformi	...	...	ʒss.
Olei Sesami	...	...	ʒss.
Olei Limonis	...	...	ʒss.
Spiritus Rosmarini	...	q.s. ad	ʒvi. (Wilson.)

Fiat Lotio. S. To be rubbed gently into the bald part at first once, and then twice a day.

℞ Olei Sinapis	...	...	ʒi.
Olei Ricini	...	...	ʒii.
Spiritus Rosmarini	...	q.s. ad	ʒiv. (Morris.)

Fiat Pigmentum. S. To be painted on the bald patch once or twice a day.

DERMATO-NEUROSES.

Pruritus.—The formulæ suitable for local use only will be considered.

Pulveres.—

R̄	Pulveris Zinci Oxidi	...	...	℥ss.
	Pulveris Camphoræ	...	...	℥iss.
	Pulveris Amyli	...	...	℥i. (Anderson.)
Fiat Pulvis. S. To be dusted on the skin.				
R̄	Pulveris Zinci Oxidi	...	...	℥iss.
	Pulveris Acidi Salicylici	...	...	℥ss.
	Pulveris Amyli	}	...	aa ℥iii.
	Talcis			
Fiat Pulvis. S. To be dusted on the skin.				
R̄	Pulveris Acidi Borici	...	...	℥ii.
	Zinci Oleatis	...	...	℥ii.
	Talcis	...	...	℥ss.
Fiat Pulvis. S. To be dusted on the skin.				

Lotiones.—

R̄	Calaminæ Preparatæ	...	...	gr. xxx.
	Zinci Oxidi	...	...	gr. xxx.
	Glycerini	...	...	℥ss.
	Aquæ Rosæ	...	... q.s. ad	℥i.
Fiat Lotio. S. To be applied freely to the skin.				
R̄	Acidi Carbolici	...	...	gr. v.
	Zinci Oxidi	...	...	℥ss.
	Glycerini	...	...	℥ss.
	Aquæ Calcis	...	... q.s. ad	℥i.
Fiat Lotio. S. To be applied to the skin.				
R̄	Bismuthi Subnitratis	...	...	gr. x.
	Zinci Oxidi	...	...	℥ss.
	Glycerini	...	...	℥xx.
	Aquæ Rosæ	...	... q.s. ad	℥i.
Fiat Lotio. S. To be applied freely on lint.				
R̄	Menthol	...	...	gr. v.—℥ss.
	Spiritus Vini Rectificati vel Eau de			
	Cologne...	...	...	℥i.
Lotio. S. To be applied when the itching is troublesome.				

℞ Liquoris Carbonis Detergentis ... ʒi.—ʒii.
 Aquæ ... q.s. ad ʒi.
 Fiat Lotio. S. To be applied to the affected part.

Unguenta:—

℞ Acidi Carbolici ... ʒss.—ʒi.
 Unguenti Aquæ Rosæ ... ʒi.
 Fiat Unguentum. S. To be applied once or twice a day.

℞ Acidi Salicylici ... gr. xv.—ʒi.
 Valsol ... ʒi.
 Fiat Unguentum. S. To be applied once or twice a day.

℞ Ichthyol ... ʒss.—ʒi.
 Resorcini ... gr. x.
 Olei Citronellæ ... ℥xv.
 Adipis Lanæ Hydrosi ... ʒi.
 Fiat Unguentum. S. To be used several times a day.

℞ Zinci Carbonatis ... ʒi.
 Acidi Salicylici ... gr. x.
 Acidi Borici ... gr. x.
 Vaselini ... ʒi.
 Unguenti Aquæ Rosæ ... q.s. ad ʒi.
 Fiat Unguentum. S. To be applied frequently.

℞ Liquoris Carbonis Detergentis ... ʒss.—ʒi.
 Hydrargyri Ammoniatī ... gr. x.
 Vaselini } ... āā ʒss.
 Adipis Lanæ Hydrosi }
 Fiat Unguentum. S. To be applied once or twice a day.

℞ Cocainæ ... gr. v.—x.
 Unguenti Conii ... ʒi.
 Fiat Unguentum. S. Apply at night or when the itching is troublesome.

℞ Acidi Carbolici ... gr. v.
 Pulveris Calaminæ ... gr. xxx.
 Zinci Oxidi ... gr. xxx.
 Unguenti Aquæ Rosæ ... ʒi.
 Fiat Unguentum. S. To be applied as directed.

℞ Unguenti Picis Liquidæ ... ʒii.
 Zinci Oxidi ... ʒss.
 Unguenti Aquæ Rosæ ... q.s. ad ʒi.
 Fiat Unguentum. S. To be applied as directed.

PARASITIC AFFECTIONS OF THE SKIN.

The diseases caused by vegetable parasites:—

(1) *Ringworm*.—The application of a mild parasiticide application is usually sufficient to effect the cure of ringworm of the body. The following ointments are of service:—

℞ Unguenti Sulphuris Iodidi (B.P.)

Fiat Unguentum. S. To be applied once or twice a day.

℞ Chrysarobini }
Ichthyol } āā gr. lxxv.

Acidi Salicylici gr. xlv.

Vaselini ℥iii. (Unna).

Fiat Unguentum. S. To be applied to the affected spot once or twice daily.

℞ Hydrargyri Ammoniaci gr. v.—xx.

Vaselini }
Lanolini } āā ℥ss.

Fiat Unguentum. S. To be applied to the diseased spot once or twice daily.

℞ Hydrargyri Oleatis gr. iii.—xxx.

Unguenti Aquæ Rosæ ℥i.

Fiat Unguentum. S. To be applied once or twice a day to the affected spot.

℞ Cupri Oleatis gr. iii.—xxx.

Adipis Benzoati ℥i.

Fiat Unguentum. S. To be applied once or twice daily.

℞ Glycerini Acidi Carbolici ℥ii.

Sulphuris Præcipitati gr. xv.

Lanolini ad ℥i.

Fiat Unguentum. S. To be applied once or twice a day.

These applications may suffice to effect the cure of ringworm of the scalp, but in the event of failure use—

℞ Acidi Salicylici gr. v.—xx.

Chloroformi ℥i. (Morris).

Fiat Lotio. S. To be applied freely once a day until desquamation of the epidermis occurs.

The use of this remedy may be followed by the application of one of the foregoing ointments, or by:—

R: Hydrargyri Oleatis ... 3i.—3iv.
Unguenti Aquæ Rosæ ... 3i.

Fiat Unguentum. S. Apply once or twice a day.

Or the following ointments used independently may effect a cure:—

R: Chrysarobini ... gr. xv.—3iv.
Vaselini ... 3i.

Fiat Unguentum. S. To be well rubbed into the diseased patch.

R: Unguenti Sulphuris Iodidi (B.P.)

Fiat Unguentum. To be rubbed into the diseased patch once or twice a day.

Tinea Sycosis.—After epilation one of the ointments given above should be applied.

Favus.—The treatment of this disease should be conducted by means of the remedies used for the cure of ringworm after the removal of the crusts, which may be accomplished by soaking with carbolic oil and washing with soft soap.

Tinea versicolor.—This disorder is effectually cured by the use of one of the accompanying lotions:—

R: Sodii Hyposulphitis ... 3i.
Glycerini ... 3i.
Aquæ ... q.s. ad 3i.

Fiat Lotio. S. To be applied once or twice a day to the affected parts.

R: Acidi Sulphurosi ... 3ss.
Aquæ ... q.s. ad 3i.

Fiat Lotio. S. To be applied once or twice a day to the affected parts.

THE DISEASES DUE TO ANIMAL PARASITES.

Scabies.—Anti-parasiticide treatment should be preceded by a hot bath and the use of soft soap, or

Johnston's ethereal soap may be applied freely and allowed to dry. One of the following ointments should then be applied:—

℞ Sulphuris Sublimati	...	...	℥i.
Beta-Naphthol	...	...	℥ss.
Adipis Benzoati	...	...	℥i.

Fiat Unguentum. S. Apply freely once or twice daily.

℞ Sulphuris Sublimati	...	...	℥i.
Cretæ Preparatæ	...	...	℥ss.
Adipis Benzoati	...	...	℥i.

Fiat Unguentum. S. Apply freely night and morning.

Pediculus capitis.

℞ Olei Petrolei	}	...	āā	℥i.
Balsami Peruviani				

Fiat Lotio. S. To be well rubbed all over the hair and scalp. The head should subsequently be washed with Johnston's ethereal soap or with toilet soap and hot water.

℞ Olei Staphisagriæ Expressi	...	℥i.
Adipis Benzoati	...	q.s. ad ℥i.

Fiat Unguentum. S. To be applied freely to the hair of the head.

Pediculus Corporis.—Wash with Johnston's ethereal soap, and if necessary use:—

℞ Hydrargyri Ammoniati	...	...	℥ss.
Adipis Benzoati	...	...	℥i.

Fiat Unguentum. S. To be smeared over the body.

Pediculus Pubis.—Whitla recommends the use of the following ointment:—

℞ Hydrargyri Ammoniati	...	...	gr. xxxv.
Olei Petrolei	...	...	℥iiss.
Balsami Peruviani	...	...	℥i.
Lanolini	...	...	q.s. ad ℥i.

Fiat Unguentum. S. To be rubbed into the pubic hairs.

E. H. C.

APPENDIX.

In view of the pernicious practice, which unfortunately, is only too prevalent, of taking drugs in the form of patent medicines, it is frequently desirable that medical men should be acquainted with the approximate composition of these preparations. The active ingredients of a large number of proprietary articles have been approximately determined and published by Dr. Robert Hutchison (Patent Foods and Patent Medicines by Robert Hutchison M.D., F.R.C.P.) and by his kind permission we append the following list, which includes most of the better known patent medicines.

APPROXIMATE INGREDIENTS
OF VARIOUS PATENT AND PROPRIETARY
PREPARATIONS.

APERIENT AND LIVER PILLS.

Beecham's Pills.—Aloes, ginger and soap.

Baillie's Pills.—Aloes, colocynth, oil of cloves and soap.

Bile Beans.—Cascara, rhubarb, liquorice and oil of peppermint, coated with gelatin.

Cockle's Pills and Barclay's Pills.—Aloes, colocynth and rhubarb.

Carter's Little Liver Pills.—Podophyllin (one-eighth grain) and socotrine aloes (one-third grain) in each pill.

Dixon's Pills.—Taraxacum, podophyllin, jalap and soap.

Holloway's Pills.—Aloes, rhubarb, saffron, Glauber's salts and pepper.

Iron Ox Tablets.—Manganese citrate, carbonate of iron, aloin, extract of gentian, extract of cascara sagrada, oleoresin capsicum.

Page Woodcocks Wind Pills.—Aloes, oleum carui and soap.

Scott's Pills.—Aloin, and cascara with a soap basis.

Whelppton's Pills.—Rhubarb, aloes, ginger, pulvis ipecacuanhæ and soap.

SALINE APERIENTS.

Eno's Fruit Salt.—Bicarbonate of soda, tartaric acid and citric acid.

Lamplough's Pyretic Saline.—Citric acid with bicarbonate of potassium and sodium.

Abbey's Salt.—Tartaric acid with bicarbonate of sodium, sulphate of magnesium and sugar.

COUGH MIXTURES AND LOZENGES.

Congreve's Elixir.—Balsam of peru and tolu, styrax, virginian prune, squill, aromatic sulphuric acid, rectified spirit, cochineal, sugar.

Keatings Cough Lozenges.—Ipecacuanha, lactuaria, squill, liquorice, tragacanth and sugar.

Owbridge's Lung Tonic.—Balsam of tolu, oil of aniseed and oil of cloves.

PREPARATIONS FOR GOUT AND RHEUMATISM.

Eade's Pill.—Salicylate of sodium, guaiacum and aloes.

Gloria Tonic.—Colchicum, guaiacum resin and iodide of sodium.

Blair's Gout Pills.—The active ingredient is colchicum.

PREPARATIONS FOR HEADACHE AND NEURALGIA.

Antikamnia.—Bicarbonate of sodium, antifebrin and (?) caffeine.

Bromidia.—Bromide of potassium, chloral, hyoscyamus, cannabis indica, oil of aniseed, syrup and water.

Bunter's Nervine.—Creosote, chloroform, camphor, balsam of tolu and alcohol.

Kaputine.—Antifebrin and sugar (coloured).

Kays Tic Pills.—Sulphate of iron, quinine and soap.

Zox Powders.—Pure antifebrin.

PREPARATIONS FOR ASTHMA.

Crevoisier's.—Belladonna, foxglove; stramonium, sage and nitrate of potassium in equal parts.

Hairs Cure.—Iodide of potassium and tar water.

Plant's Cigarettes.—Leaves of stramonium, lobelia and green tea.

Tucker's Cure.—Atropine, cocaine, hyponitrous acid and various balsamic extracts administered by means of an æriser.

Himrod's Cure, Bless's Cure and Green Mountain Cure.—According to Martindale and Westcott (Extra Pharmacopœia) these 'cures' resemble the following:—

Potassium nitrate 240, Boiling Distilled Water 240, Dissolve and add to Lobelia in powder, Stramonium Leaves in powder Black Tea in powder

of each, 240—Mix well, dry and add oil of Anise. i.

COSMETIC APPLICATIONS.

Mrs. Allens Hair Restorer.—Acetate of lead, milk of sulphur scented with oil of cinnamon.

Tatcho.—Purified oil of paraffin and essential oil of lemon.

Koko.—Borax, glycerine and rose water.

Harlene.—Glycerine, alcohol, ammonia and oil of cassia.

Mexican Hair Restorer.—Acetate of lead, precipitated sulphur, glycerine and water.

REMEDIES FOR OBESITY.

Trilene Tablets.—Sugar, and a vegetable constituent of unknown nature.

Grey's Specific.—Contains 47.2 per cent of free sulphur and a bitter (? gentian).

Mrs. Frost's Anti-Obesity Remedy.—The active ingredient is extract of *Fucus vesiculosus*.

Russell's Anti-Corpulent Cure.—Citric acid (20 grains to half an ounce) glycerine and water.

The Pink Tablet.—Saccharine.

MISCELLANEOUS PREPARATIONS.

Buer's Piles Cure.—*Ointment*.—Gall and hamamelis with lanoline basis. *Powder*.—Precipitated sulphur and carbonate of magnesium.

Californian Syrup of Figs.—Senna (active constituent) syrup of figs, and cinnamon.

Doanes (Back-ache) Pills.—(1) White-coated aperient (dinner pills) Podophyllin, aloin, rhubarb and peppermint.—(2) Brown-coated (back-ache pills): Oil of Juniper and a resinous constituent (? copaiba).

Glykaline.—Glycerine, rectified spirit and a trace of iodide of potash.

Essence de Riggles.—Oleum menthæ piperitæ dissolved in rectified spirit.

Guys Tonic.—Phosphoric acid, tincture of cochineal infusion of gentian and chloroform water.

Dalby's Carminative.—Pulvis rhei, magnesium carbonate, glycerine, sugar, oleum menthæ piperitæ and oleum anethi and a small quantity of laudanum.

Chlorodyne.—Chloroform, ether, hydrocanic acid, morphine, cannabis indica, capsicum, peppermint and treacle.

Clarke's Blood Mixture.—The active constituent is iodide of potassium (about six grains to the ounce).

Oxien.—Powdered sugar, and starch and oleum gualtheriæ.

Ozerine.—Bromide of potassium, and iodide of ammonium with chloroform water.

Pink Pills.—Sulphate of iron, an alkaline carbonate and liquorice thickly coated with sugar and coloured with carmine.

Phospherine.—Quinine, phosphates and hypophosphites.

Siegel's Syrup.—Aloes, capsicum, liquorice and treacle.

Steedman's Teething Powders.—Calomel and starch.

Warner's Safe Cure.—Nitrate of potassium (about ten grains to the ounce) and various diuretic herbs.

Woodward's Gripe Water.—Liquor magnesiæ carbonatis, oleum anethi, sugar, and a trace of alcohol.

DRINK CURES.

Mrs. Terry's.—Sugar (98 per cent) and salt (2 per cent).

Antidipso.—Chlorate of potash and sugar.

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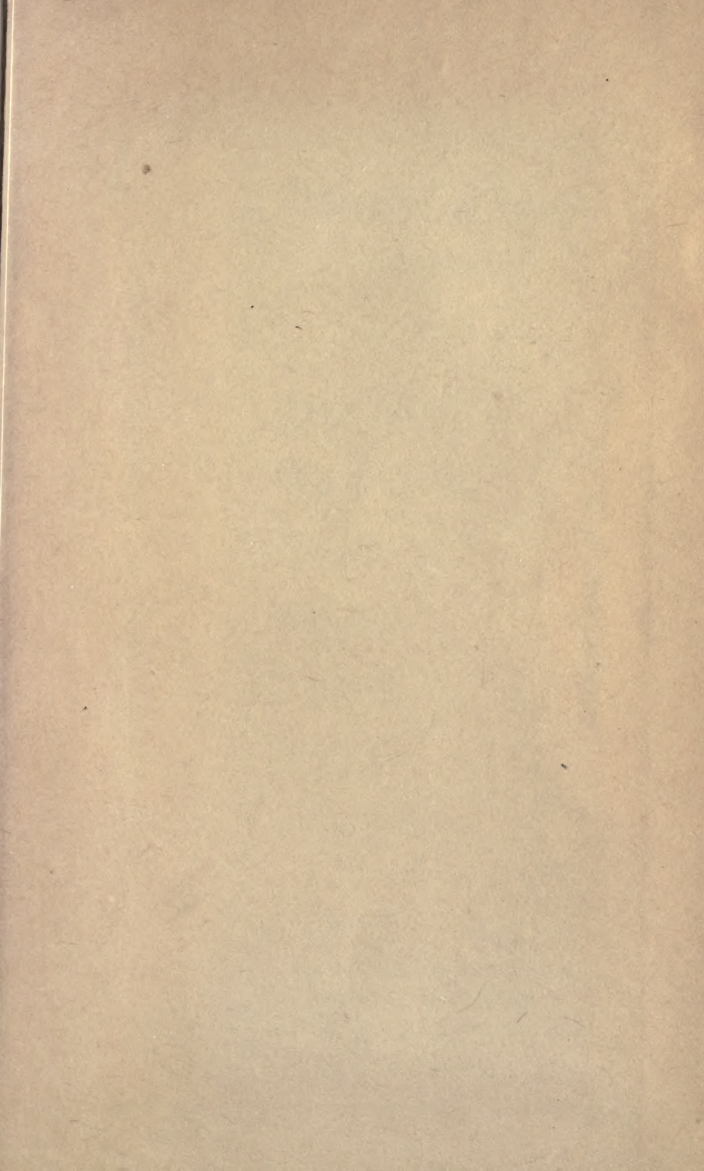
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